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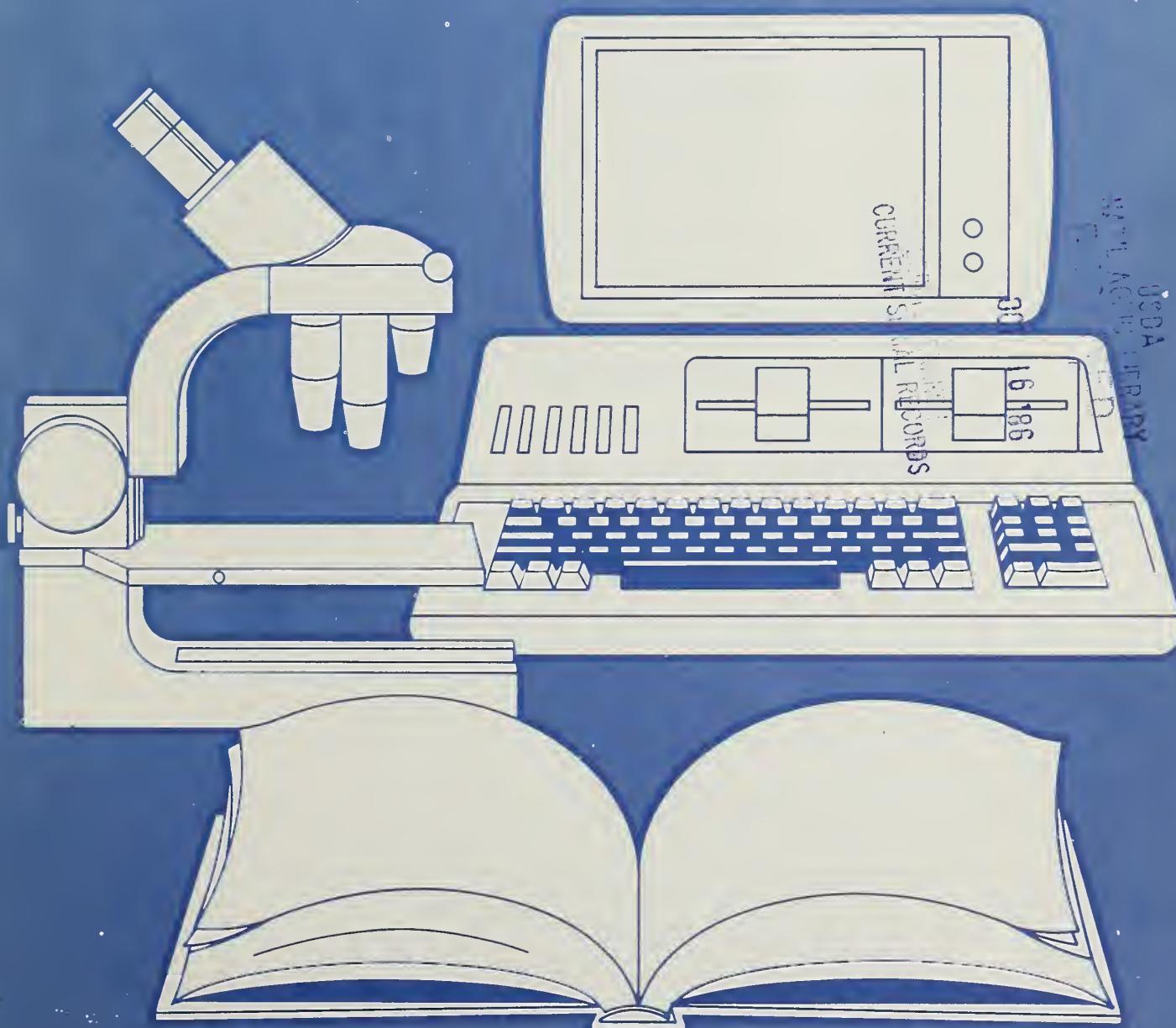
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Bibliographies  
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Number 51

# Conservation Tillage: January 1980- August 1985

Citations from Agricola  
Concerning Diseases and  
Other Environmental  
Considerations



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# Conservation Tillage: January 1980 - August 1985

Citations from Agricola  
Concerning Diseases and Other  
Environmental Considerations

Compiled and Edited by  
Charles N. Bebee  
National Agricultural Library

United States Department of Agriculture  
National Agricultural Library  
Beltsville, Maryland 20705

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Washington, D.C. 20460

Bibliographies and Literature of Agriculture  
Number 51

August 1986

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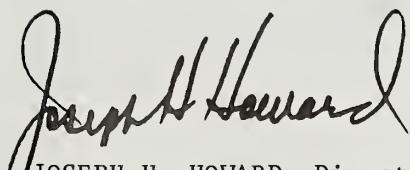
## FOREWORD

This is the 12th volume in a series of commodity-oriented environmental bibliographies resulting from a memorandum of understanding between the United States Department of Agriculture, National Agricultural Library (USDA-NAL), and the Environmental Protection Agency, Office of Pesticide Programs (EPA-OPP).

This close working relationship between the two agencies will produce a series of bibliographies which will be useful to EPA in the regulation of pesticides, as well as to any researcher in the field of plant or commodity protection. The broad scope of information contained in this series will benefit USDA, EPA, and the agricultural community as a whole.

The sources referenced in these bibliographies include the majority of the latest available information from United States publications involving commodity protection throughout the growing and processing stages for each agricultural commodity.

We welcome the opportunity to join this cooperative effort between USDA and EPA in support of the national agricultural community.



JOSEPH H. HOWARD, Director  
National Agricultural Library



DOUGLAS D. CAMPT, Director  
Office of Pesticide Programs



## INTRODUCTION

The citations in this bibliography are selected from works by U.S. authors on all aspects of the protection of hays. All citations are derived from AGRICOLA (AGRICultural Online Access), the family of databases compiled by the National Agricultural Library and its cooperators.

This is the 12th bibliography included in a series of commodity-oriented environmental databases jointly sponsored by the National Agricultural Library, United States Department of Agriculture (USDA-NAL), and the Office of Pesticides Programs, Environmental Protection Agency (EPA-OPP). Additional volumes issued recently or planned for the immediate future concern protection of corn, soybeans, pome fruits, stone fruits, grain sorghum, rice, and peanuts.

Entries in the bibliography are subdivided into a series of subject headings used in the table of contents of the Bibliography of Agriculture and in the National Agricultural Library Catalog. Each citation appears under the subject heading assigned to the particular item. A complete author index is also included in the publication.

The Office of Pesticide Programs, EPA, has furnished technical assistance to the compiler through members of a commodity-oriented environmental data team which included:

Charles D. Reese  
H. Irving Brigham  
Bernard Schneider, PhD.  
Richard Petrie

Any comments or questions may be forwarded to the compiler:

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# EPA BIBLIOGRAPHY

## RESEARCH

0001

**The design of research and topics on cover crop uses (Mulch crops, minimum tillage systems).**

Madar, R.J. Corvallis, Or. : International Plant Protection Center, Oregon State University, 1982. Crop production using cover crops and sods as living mulches : workshop proceedings / edited by J.C. Miller and S.M. Bell. p. 98-120. Includes references. (NAL Call No.: S661.5.C7).

# METEOROLOGY AND CLIMATOLOGY

0002

Long term weather records to assess best management practices (Soil erosion, storm magnitude, no-till practices, Michigan). Gold, A.J. Loudon, T.; Nurnburger, F.V. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1984. Paper presented at the 1984 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1984. (fiche no. 84-2043). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

0003

Soil frost penetration under conventional and conservation tillage (Factors contributing to soil erosion, Oregon). Greenwalt, R.N. OASPA. Pukul, J.L. Jr.; Zuzel, J.F. Corvallis : The Station. Special report - Agricultural Experiment Station, Oregon State University. June 1983. Report of Columbia Basin agricultural research. June 1983. (680). p. 20-23. ill. Includes references. (NAL Call No.: 100 DR3M).

# EDUCATION AND TRAINING NOT EXTENSION

0004

**Obstacles to adoption of conservation tillage.**  
Nowak, P.J. JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: Effectively promoting the use of conservation tillage requires a look at the adoption process through the eyes of the farmer. *Journal of soil and water conservation*. May-June 1983. v. 38 (3). p. 162-165. Includes 12 references. (NAL Call No.: 56.8 J822).

0005

**Sharing conservation tillage information.**  
Lake, J.E. JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: A new center for collecting and distributing information on conservation tillage began operation in January 1983. Establishment of the center resulted from the recognition that a gap exists with respect to the flow of information between the private and public sectors. The center's goal is to fill that gap by serving as a clearinghouse to help increase the flow of information from agricultural leaders in both the public and private sectors to farmers and those agencies, institutions, organizations, and industries that assist them daily. *Journal of soil and water conservation*. May-June 1983. v. 38 (3). p. 158-159. (NAL Call No.: 56.8 J822).

0006

**Students build land lab with community help (To develop knowledge and skills in land management, soil conservation, tillage, Frederick County, Maryland).**  
Talbert, G.F. Washington : The Service. Soil & water conservation news - United States Dept. of Agriculture, Soil Conservation Service. Feb 1983. v. 3 (11). p. 8. (NAL Call No.: aS622.S6).

# U.S. EXTENSION SERVICES

0007

Annotated bibliography of selected extension publications, conservation tillage /by J.W. Bauder. - .  
Bauder, J. W. Washington, D.C.? : Conservation Tillage Information Center ; Fort Wayne, Ind. (2010 Inwood Dr., Fort Wayne 46815) : Available from Conservation Tillage Information Center, 1984. Cover title: Cooperative extension publications on conservation tillage, an annotated bibliography.~ "A special project of the National Association of Conservation Districts."~ "This publication was produced as a cooperative effort of the Montana Cooperative Extension Service, the Minnesota Agricultural Extension Service, the Extension Service-USDA and the Conservation Tillage." July 1984. 84 p. ; 28 cm. (NAL Call No.: DNAL Z5074.S65B37).

0008

Can Lo-till fill the bill? (Wheat production, cost reductions, minimum tillage Extension programs, Oklahoma).  
Crummett, D.M. Washington : The Administration. Extension review - United States Department of Agriculture, Science and Education Administration. Spring 1983. v. 54 (2). p. 16-17. ill. (NAL Call No.: 1 EX892EX).

0009

Nebraska producers break tradition (Conservation tillage methods to reduce soil erosion, Cooperative Extension programs).  
Dickey, E.C. Washington : The Administration. Extension review - United States Department of Agriculture, Science and Education Administration. Spring 1983. v. 54 (2). p. 24-25. ill. (NAL Call No.: 1 EX892EX).

0010

No-till field day draws a crowd (Milan Agricultural Experiment Station, Tennessee).  
Dyer, E.B. McCutchen, T. Washington : The Service. Soil & water conservation news - United States Dept. of Agriculture, Soil Conservation Service. May 1983. v. 4 (2). p. 4. ill. (NAL Call No.: aS622.S6).

# ADMINISTRATION

0011

How California cotton producers are beating the cost-price squeeze (Narrow-row cotton, minimum tillage, once-over harvest machines, movable module builders).

Drum, D. Apr 1979. v. 94 (4). Progressive farmer for the West. Apr 1979. v. 94 (4). p. 47N-48N. ill. (NAL Call No.: 6 T311).

0012

Remarks prepared for delivery by Secretary of Agriculture John R. Block before the National Association of Conservation Districts Board of Directors meeting, Washington, D.C., March 21, 1983 (USDA soil conservation programs, erosion control, conservation tillage, cross-compliance).

Block, J.R. Washington : The Office. Major news releases and speeches - United States Department of Agriculture, Office of Governmental and Public Affairs. Mar 18/25, 1983. Mar 18/25, 1983. p. 1-6. (NAL Call No.: aS21.A8U51).

# LEGISLATION

0013

**Furrow opener and apparatus for no-tillage transplanters and planters (Consists of automatic seedling planting mechanism, driving means, towing means, farm machinery; citation only).**

Morrison, J.E. Jr. USDA. Abrams, C.F. Jr. Washington, D.C., The Office. United States patent - United States Patent Office. Feb 27, 1979. Copies of USDA patents are available for a fee from the Commissioner of Patents and Trademarks, U.S. Patents and Trademarks Office, Washington, D.C. 20231. Feb 27, 1979. (4,141,302). 15 p. ill. 24 ref. (NAL Call No.: No Call No. (PAT)).

0014

**Soil degradation and land use changes: A representative-farm analysis Illinois Soil Erosion and Sedimentation Control Act of 1977, Federal Water Pollution Control Act Amendments of 1972 .**

JSWCA3. Kraft, S.E. Toohill, T.L. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Sept/Oct 1984. v. 39 (5). p. 334-338. Includes 13 references. (NAL Call No.: DNAL 56.8 J822).

0015

**Soil erosion on new cropland: a sodbusting perspective.**

JSWCA3. Heimlich, R.E. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. July/Aug 1985. v. 40 (4). p. 322-326. ill., maps. Includes 17 references. (NAL Call No.: DNAL 56.8 J822).

# ECONOMICS, DEVELOPMENT, RURAL SOCIOLOGY

0016

**Socioeconomic aspects of no-tillage  
agriculture.**

Choi, Hyup. Lexington, Ky. College of  
Agriculture, Agricultural Experiment Station,  
Dept. of Sociology 1979. 36 p. -. Bibliography:  
p. 33-34. (NAL Call No.: 275.29 K4152 No.63).

# ECONOMICS

0017

**The adoption of reduced tillage: the role of human capital and other variables.**  
Rahm, M.R. Huffman, W.E. Ames, Iowa : American Agricultural Economics Association. Extract: This paper presents a model of adoption behavior and explains differences econometrically in farmers' decisions to adopt reduced-tillage practices and in the efficiency of farmers' adoption decisions. The empirical results, obtained from microdata, show that the probability of adopting reduced tillage in corn enterprises differs widely across farms and depends on soil characteristics, cropping systems, and size of farming operation. The results also show that farmers' schooling enhances the efficiency of the adoption decision. American journal of agricultural economics. Includes statistical data. Nov 1984. v. 66 (4). p. 405-413. Includes 26 references. (NAL Call No.: DNAL 280.8 J822).

0018

**Conservation-tillage research in interior Alaska.**  
Lewis, C.E. AGBOB. Fairbanks : The Station. Extract: The objective of conservation tillage in the Delta-Clearwater area is to study soil-management systems which minimize soil and water erosion, are consistent with good weed control, maintain adequate soil moisture, and allow the soil to warm up early enough in the spring to produce satisfactory yields. Agroborealis - Alaska Agricultural Experiment Station, Fairbanks. Jan 1983. v. 15. p. 4-10. Includes 7 references. (NAL Call No.: S33.E2).

0019

**Costs and returns of irrigated multiple-crop production in the Georgia coastal plain /by Bernard V. Tew... et al. . -.**  
Tew, Bernard V. Athens, Ga. : Division of Agricultural Economics, College of Agriculture, University of Georgia, 1982. Chiefly tabular data. 211 leaves : map ; 29 cm. - . Bibliography: leaf 13. (NAL Call No.: DNAL HD1775.G4G42 no.82-3).

0020

**Costs and returns of irrigated multiple-crop production in the Georgia coastal plain, 1982 /by G. Scott Smith ... et al. . -.**  
Smith, G. Scott. Athens, Ga. : Department of Agricultural Economics, University of Georgia, 1984. Chiefly tables.~ Bibliography: p. 15. 123 leaves : map ; 28 cm. - . (NAL Call No.: DNAL HD1775.G4G42 no.84-2).

0021

**Costs and returns of irrigated multiple-crop production in the Georgia Coastal Plains, 1980- / by Bernard V. Tew ... (et al.).**  
Tew, Bernard V. (Athens, Ga.) Division of Agricultural Economics, College of Agriculture, University of Georgia 1983. v. : map ; 29 cm. - . Includes bibliographies. (NAL Call No.: HD1775.G4G42 no.83-2 etc.).

0022

**Costs and returns of irrigated multiple-crop production in the Georgia Coastal Plains, 1980- / by Bernard V. Tew ... (et al.).**  
Tew, Bernard V. (Athens, Ga.) Division of Agricultural Economics, College of Agriculture, University of Georgia 1983. v. : map ; 29 cm. - . Includes bibliographies. (NAL Call No.: HD1775.G4G42 no.83-2 etc.).

0023

**Costs and returns of irrigated multiple-crop production of corn grain, grain sorghum and corn silage in the Georgia coastal plains / by Bernard V. Tew ... (et al.).**  
Tew, Bernard V. (Athens) Division of Agricultural Economics, College of Agriculture, University of Georgia (1980?). "April, 1980". 89 leaves ; 28 cm. - . Includes bibliographical references. (NAL Call No.: HD1775.G4G42 no.80-1).

0024

**An economic analysis of reduced tillage systems in corn and soybean production.**  
Klemme, R.M. JFMRA. Denver : The Society. Journal of the American Society of Farm Managers and Rural Appraisers. Oct 1983. v. 47 (2). p. 37-44. ill. Includes references. (NAL Call No.: 281.8 AM32).

0025

**Economic returns from alternative corn and soybean tillage systems in Indiana.**  
Doster, D.H. JSWCA3. Griffith, D.R.; Mannerling, J.V.; Parsons, S.D. Ankeny, IA : Soil Conservation Society of America. Extract: On the major cropland soils in Indiana, net returns from alternative corn and soybean tillage systems varied \$20 to \$40 per acre. The variations related to both yields and cost differences. The till-plant system produced net returns equal to or greater than other systems on all soil groups. The no-till system produced net returns comparable to those with the till-plant system on well-drained, sloping soils. However, no-till returns were unfavorable compared with most other systems on other soils. Journal of soil and water conservation. Nov-Dec 1983. v. 38 (6). p. 504-508. Includes 8 references. (NAL Call No.:

56.8 J822).

0026

**Estimation of multicrop production functions.**  
 Just, R.E. Zilberman, D.; Hochman, E. Ames, Iowa : American Agricultural Economics Association. Extract: This paper considers whether separability or nonjointness is the better approach for attaining tractability for multicrop production function estimation. Characteristics of agricultural production associated with allocated inputs, physical constraints, and output determination imply sufficient nonjointness for estimation, whereas separability is less plausible. The paper also addresses estimation of production functions with allocated inputs where allocations are not observed and demonstrates a proposed approach by way of example. American journal of agricultural economics. Nov 1983. v. 65 (4). p. 770-780. Includes 18 references. (NAL Call No.: 280.8 J822).

0027

**No-tillage agriculture.**  
 Phillips, R.E. Blevins, R.L.; Thomas, G.W.; Frye, W.W.; Phillips, S.H. Washington, D.C., American Association for the Advancement of Science. Science. June 6, 1980. v. 208 (4448). p. 1108-1113. ill. 32 ref. (NAL Call No.: 470 SCI2).

0028

**Reasons why Ohio farmers decide for or against conservation tillage.**  
 Ladewig, H. JSWCA3. Garibay, R. Ankeny, IA : Soil Conservation Society of America. Extract: A survey of 1,200 Ohio farmers showed that 43 percent used conservation tillage practices. Those farmers who chose to use conventional tillage practices did so primarily because they lacked knowledge about conservation tillage practices and because they lacked conservation tillage equipment. Secondary reasons for the use of conventional tillage practices included existing farm conditions and previous experiences with conservation tillage. Decisions to use conservation tillage were based primarily on farmers' concern for the environment and availability of equipment. Economy was a secondary reason. Timely advice appeared to be key to adoption of conservation tillage. Journal of soil and water conservation. Nov-Dec 1983. v. 38 (6). p. 487-488. Includes 3 references. (NAL Call No.: 56.8 J822).

0029

**Selling conservation tillage.**

Ankeny, IA : Soil Conservation Society of America. Extract: Includes 18 brief articles that examine various aspects of conservation tillage. Examples of its introduction and adoption in different regions of the United States are also included. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 169-181. (NAL Call No.: 56.8 J822).

0030

**Use and cost of soil conservation and water quality practices in the Southeast.**

Russell, J.R. Christensen, L.A. Washington, D.C. : The Service. Extract: The most frequently used conservation practices in the Southeast are terracing, sod waterways, permanent vegetative cover crops, and conservation tillage. Costs of terracing per acre ranged from \$125 in Kentucky to \$17 in South Carolina. Sod waterway costs ranged from \$1,854 in Kentucky to \$858 in Tennessee. Permanent vegetative cover costs ranged from a high of \$121 in South Carolina to a low of \$73 in North Carolina. Conservation tillage costs ranged from a high of \$48 per acre in Florida to a low of \$9 in Tennessee. ERS staff report - United States Dept. of Agriculture, Economic Research Service. Feb 1984. Available from NTIS, order no. PB84-161173. Feb 1984. (AGES831928). 19 p. Includes 16 references. (NAL Call No.: 916762(AGE)).

# LAND ECONOMICS

0031

**Assessing the potential for conservation tillage: a case study in the Maple Creek watershed.**

Casper, H.R. Erickson, M.W.; Hoover, H. Washington, D.C. : The Service. Extract: A case study of the selected areas shows about 95 percent of the soils are suitable for all forms of conservation tillage. Critical erosion areas are lands of 12 to 13 percent slope. These lands comprise one-fourth of the land but contribute over half the total sediment. Preharvest costs are shown for four tillage methods. Labor, energy and other inputs for reduced, no-till and conventional tillage are compared for nonirrigated corn production. Major obstacles to adoption prior to the project were low perceptions of major erosion problems and low cost-share rates. Most operators were using some non-cost shared practices. ERS staff report - United States Dept. of Agriculture, Economic Research Service. Jan 1983. Available from NTIS, order no PB83-209296. Jan 1983. (AGES821231). 34 p. Includes 11 references. (NAL Call No.: 916762(AGE)).

0032

**A comparison of tillage systems for reducing soil erosion and water pollution.**

Christensen, L.A. Norris, P.E. Washington, D.C. : The Department. Extract: Cropland in minimum tillage rose from 15.8 percent of all cropland in 1973 to 29.1 percent in 1981. The share for no-till rose from 2.0 to 2.9 percent during the same period. These conservation tillage systems--minimum tillage and no-till--can also reduce soil loss up to 99 percent over conventional tillage. This report looks at trends in the use of various tillage systems and compares their economic impacts and effects on soil and water conservation, crop yields, and pesticide and energy use, using selected results from studies of tillage systems. Agricultural economic report - United States Dept. of Agriculture. May 1983. Available from NTIS, order no. PB83-209866. May 1983. (499). 27 p. Includes 68 references. (NAL Call No.: A281.9 AG8A).

0033

**Conservation tillage in Ontario.**

Ketcheson, J.W. JSWCA. Stonehouse, D.P. Ankeny, IA : Soil Conservation Society of America. Extract: Only a small portion of Canada's land area is suitable for agricultural production. Half of the agricultural capability class I land (no significant limitations for cropping) is in Ontario. Ontario farmers, therefore, have a responsibility to maintain these soils in a highly productive state in the interests of Canada's food sufficiency. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 253-254. Includes 6 references. (NAL Call No.: 56.8 J822).

0034

**Conservation tillage: Marrying for money.**

JSWCA3. Cook, K. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Oct/Nov 1984. v. 39 (6). p. 368-370. (NAL Call No.: DNAL 56.8 J822).

0035

**Conservation tillage use.**

Christensen, L.A. JSWCA. Magleby, R.S. Ankeny, IA : Soil Conservation Society of America. Extract: American farmers are changing the ways they till the soil. In the past decade, a shift has occurred from almost complete reliance on the moldboard plow and turning the soil each year to conservation tillage practices that disturb the soil less and leave more residue on the soil surface. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 156-157. (NAL Call No.: 56.8 J822).

0036

**Cropland rental and soil conservation in the United States.**

Bills, N.L. Washington, D.C. : The Department. Extract: Data from USDA's Resource Economics Survey challenge the common, but not well-substantiated, view that farmers are less concerned with erosion on land they rent than on land they own. At the national level, farmers' conservation efforts--as reflected in crop rotation, tillage practices, and use of conservation practices--on rented cropland compare favorably with those on owner-operated cropland. Nevertheless, rented land is subject to more erosion because a greater proportion of it is used to produce erosive row crops. Agricultural economic report - United States Dept. of Agriculture. Available from NTIS, order no. PB85-190973/AS. Mar 1983. (529). 13 p. Includes 26 references. (NAL Call No.: DNAL AGE A281.9 AG8A).

0037

**Economics of agricultural erosion and sedimentation -- a selected literature review.**

Dickason, C. Piper, D. Washington, D.C. : The Service. Extract: This study reviews selected literature from 1972 to 1981 dealing with economic analyses of alternative erosion and sedimentation control measures on agricultural lands. Fifty-four publications are reviewed with respect to their applicability in the economic evaluation of erosion and sedimentation in selected small areas. Those publications which were found to be the most helpful are more fully discussed in five study applications subsections which appear at the end of the major sections. The review was organized into seven major sections: introduction, related literature reviews, onfarm analysis, small area analysis, large area analysis, other studies, and conclusions

and recommendations. ERS staff report - United States Dept. of Agriculture, Economic Research Service. Apr 1983. Available from NTIS, order no. PB83-209213 ~Literature review. Apr 1983. (AGES830328). 52 p. Includes 54 references. (NAL Call No.: 916762(AGE)).

0038

**Emergency tillage to control wind erosion: influences on winter wheat yields.**

Lyles, L.JSWCA. Tatarko, J. Ankeny, IA : Soil Conservation Society of America. Extract: About 2.4 million hectares (6 million acres) are tilled on an emergency basis each year to control wind erosion in the Great Plains. Much of the tillage is done on fall-seeded winter wheat (*Triticum aestivum* L.). Emergency chiseling of growing winter wheat in Finney County, Kansas, during early March (1977-1981) did not significantly influence grain yields on a silty clay site, regardless of whether a 76- or 152-centimeter (30- or 60-inch) chisel spacing was used, whether 50 or 100 percent of the area was tilled, or whether tillage was parallel or perpendicular to row direction. Similar results were obtained in 3 or 4 years on a sandy loam site. Narrow-point chisels have potential for reducing wind erosion if soil conditions are conducive to producing nonerodible aggregates. Wheat straw/grain ratios, stalk diameters, and volume weights are important factors in determining what wind erosion protection the vegetation is able to provide. *Journal of soil and water conservation*. Nov-Dec 1982. v. 37 (6). p. 344-347. Includes 11 references. (NAL Call No.: 56.8 J822).

0039

**Energy implications of conservation tillage.**

Lockretz, W.USWCA. Ankeny, IA : Soil Conservation Society of America. Extract: The deterioration in the nation's energy situation that began in the early 1970s made conservation tillage attractive because of the lower fuel requirements. Farmers annually consume about 2 billion gallons of fuel for tillage and related operations, including cultivation and planting. The cost of this fuel, now somewhat over \$2 billion a year, could be cut appreciably with alternative tillage methods. *Journal of soil and water conservation*. May-June 1983. v. 38 (3). p. 207-211. Includes 33 references. (NAL Call No.: 56.8 J822).

0040

**Impact of tenure status on economic incentives for conservation tillage.**

Hinman, H.R.JSWCA. Mohasci, S.G.; Young, D.L. Ankeny, IA : Soil Conservation Society of America. Extract: The cost of conservation tillage practices and the design of typical farm lease contracts in the Palouse region of Washington and Idaho create conflict in the economic incentives for adoption of

conservation tillage between tenant operators and landlords. Interests of both operators and landlords must be considered in designing programs that involve incentives to practice conservation. *Journal of soil and water conservation*. May-June 1983. v. 38 (3). p. 287-290. Includes 8 references. (NAL Call No.: 56.8 J822).

0041

**Impacts of productivity loss on crop production and management in a dynamic economic model.**

Miranowski, J.A. Ames, Iowa : American Agricultural Economics Association. Extract: This article finds the optimal choice of tillage method and crop rotation for farmers who correctly anticipate the yield-decreasing effects of soil erosion. Expected increases in crop prices lead to farming practices that are more conservation oriented. Higher relative prices for hay also lead to more soil conservation. A linear programming model of soil loss is presented for a watershed in Tama County, Iowa. *American journal of agricultural economics*. Feb 1984. v. 66 (1). p. 61-71. Includes 20 references. (NAL Call No.: 280.8 J822).

0042

**The influence of technological progress on the long run farm level economics of soil conservation.**

Taylor, D.B. Young, D.L. Lincoln, Neb. : Western Agricultural Economics Association. Extract: The complementary interaction between topsoil depth and technical progress for winter wheat in the Palouse region was found to strengthen the long run payoff to conservation tillage. Nonetheless, conservation tillage was found to be competitive with conventional tillage only if its current yields disadvantages were eliminated. Conservation tillage was relatively more competitive on shallower topsoils and for longer planning horizons. Short-term subsidies coupled with research directed towards reducing the cost and yield disadvantages of conservation tillage in the Palouse were advocated to maintain long-term soil productivity. *Western journal of agricultural economics*. Literature review.~ Includes statistical data. July 1985. v. 10 (1). p. 63-76. Includes 33 references. (NAL Call No.: DNAL AGE HD1750.W4).

0043

**Irrigation + dryland farming + limited tillage: a profitable combination.**

Wiese, A.F.JSWCA. Unger, P.W. Ankeny, IA : Soil Conservation Society of America. Extract: The area of irrigated land will diminish in the future because the underground water supply is being depleted and fuel costs (primarily natural gas) to pump water are increasing. As fuel costs rise, the profitability of irrigation can be maintained only by producing

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more crop per unit of water. *Journal of soil and water conservation*. May-June 1983. v. 38 (3). p. 233-237. Includes 15 references. (NAL Call No.: 56.8 J822).

0044

### Land tenure and adoption of conservation tillage.

Lee, L.K. JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: Land tenure arrangements are thought to affect adoption of conservation practices generally. But what relationships are there between land tenure and the adoption of conservation tillage specifically? If significant differences in conservation tillage adoption occur among tenure groups, public policies could be developed accordingly to encourage the use of conservation tillage. *Journal of soil and water conservation*. May-June 1983. v. 38 (3). p. 166-169. Includes 19 references. (NAL Call No.: 56.8 J822).

0045

### Landownership and the adoption of minimum tillage.

Lee, L.K. Stewart, W.H. Ames, Iowa, American Agricultural Economics Association. Extract: Full-owner operators and landowners with small holdings have lower minimum tillage adoption rates on cultivated cropland than do other landownership groups after accounting for land quality and regional location. Nonfamily corporate structure does not significantly influence the adoption decision. These conclusions about minimum tillage adoption were obtained from a logit model using 7,649 cultivated cropland observations from across the United States. This study indicates that small operating size poses more of an obstacle to minimum tillage adoption than does separation of ownership from farm operation. *American journal of agricultural economics*. May 1983. v. 65 (2). p. 256-264. Includes 22 references. (NAL Call No.: 280.8 J822).

0046

### No-till technology: impacts on farm income, energy use and groundwater depletion in the Plains.

Harman, W.L. Hardin, D.C.; Wiese, A.F.; Unger, P.W.; Musick, J.T. Lincoln, Neb. : Western Agricultural Economics Association. Extract: Rapidly rising fuel costs for irrigation and tillage, combined with groundwater depletion, confront producers in the Great Plains. Maintaining profits while production costs escalate and water levels decline emphasizes the need to increase water and energy use efficiency. A linear programming analysis for a ten-year period comparing conventional tillage practices with no-till practices based on an irrigated wheat/no-till feedgrain/fallow crop rotation indicates no-till increases both water and energy use efficiency. Returns to land,

management, and risk are substantially higher using no-till practices. *Western journal of agricultural economics. Literature review*. July 1985. v. 10 (1). p. 134-146. Includes 27 references. (NAL Call No.: DNAL AGE HD1750.W4).

0047

### Obstacles to adoption of conservation tillage.

Nowak, P.J. JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: Effectively promoting the use of conservation tillage requires a look at the adoption process through the eyes of the farmer. *Journal of soil and water conservation*. May-June 1983. v. 38 (3). p. 162-165. Includes 12 references. (NAL Call No.: 56.8 J822).

0048

### Pennsylvania farmland prices as a function of land quality and distance from metropolitan areas.

Downing, R.H. Gamble, H.B. College Park, Md. : The Council. Extract: Data on 268 farm sales in 10 counties throughout Pennsylvania in 1977 were analyzed using a hedonic price model. Problems associated with the influence of parcel size and buildings on per acre land values appear to have been overcome. Proximity of farms to metropolitan centers and the quantities of different types of land on a farm were important explanatory variables. Values per acre were computed showing the effects of those variables on price. Values for nontillable land, high productivity tillable land, and land suitable for on-site sewage disposal tended to cluster within a \$650-\$700 price range per acre at 85 miles for the nearest SMSA. *Journal - Northeastern Agricultural Economics Council*. 1983. v. 12 (1). p. 67-74. Includes 10 references. (NAL Call No.: HD1773.A2N6).

0049

### Sharing conservation tillage information.

Lake, J.E. JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: A new center for collecting and distributing information on conservation tillage began operation in January 1983. Establishment of the center resulted from the recognition that a gap exists with respect to the flow of information between the private and public sectors. The center's goal is to fill that gap by serving as a clearinghouse to help increase the flow of information from agricultural leaders in both the public and private sectors to farmers and those agencies, institutions, organizations, and industries that assist them daily. *Journal of soil and water conservation*. May-June 1983. v. 38 (3). p. 158-159. (NAL Call No.: 56.8 J822).

0050

**Soil erosion and conservation in Monroe County, Missouri: farmers' perceptions, attitudes, and performances.**

Ervin, D.E. Alexander, C.T. Columbia, Missouri, The Department. Paper - University of Missouri-Columbia, Dept. of Agricultural Economics. Feb 10, 1981. Feb 10, 1981. (1981-10). 52 p. 6 ref. (NAL Call No.: 917437(AGE)).

against erosion. Use of conservation tillage has other environmental implications as well, particularly for water quality. *Journal of soil and water conservation*. May-June 1983. v. 38 (3). p. 186-193. Includes 53 references. (NAL Call No.: 56.8 J822).

0051

**Soil erosion on new cropland: a sodbusting perspective.**

USWCA3. Heimlich, R.E. Ankeny, Iowa : Soil Conservation Society of America. *Journal of soil and water conservation*. July/Aug 1985. v. 40 (4). p. 322-326. ill., maps. Includes 17 references. (NAL Call No.: DNAL 56.8 J822).

0055

**Why conservation tillage.**

Myers, P.C. USWCA. Ankeny, IA : Soil Conservation Society of America. *Journal of soil and water conservation*. May-June 1983. v. 38 (3). p. 136. (NAL Call No.: 56.8 J822).

0052

**Soil suitability for conservation tillage.**

Casper, H.R. USWCA. Ankeny, IA : Soil Conservation Society of America. Extract: Soil taxonomy, which is the classification of soils based upon qualities and characteristics, offers one means of predicting how soils might react under various forms of conservation tillage. *Journal of soil and water conservation*. May-June 1983. v. 38 (3). p. 152-155. Includes 29 references. (NAL Call No.: 56.8 J822).

0053

**Trends in conservation tillage use.**

USWCA3. Magleby, R. Gadsby, D.; Colacicco, D.; Thigpen, J. Ankeny, Iowa : Soil Conservation Society of America. Extract: A recent U.S. Department of Agriculture (USDA) survey of more than 11,000 farmers nationwide--the 1983 Farm Production Expenditure Survey (FPES) conducted in the spring of 1984--provided some national and regional insights into the use of conservation tillage practices. Covered were such aspects as the extent and location of use, crops grown, size of farm, cropland slope, tenure, reasons given for use of conservation tillage, and government assistance received. *Journal of soil and water conservation*. Includes statistical data. May/June 1985. v. 40 (3). p. 274-276. Includes 1 references. (NAL Call No.: DNAL 56.8 J822).

0054

**Water quality consequences of conservation tillage.**

Baker, J.L. USWCA. Laflen, J.M. Ankeny, IA : Soil Conservation Society of America. Extract: Conservation tillage, which leaves some or all of the residue from the previous crop on the soil surface, effectively protects the soil

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0056

**Costs and returns of irrigated multiple-crop production of corn grain, grain sorghum and corn silage in the Georgia Coastal Plains.**  
Tew, B.V. Clifton, I.D.; Epperson, J.E.;  
Musser, W.N. Athens, The Department. Faculty series FS - Georgia, University, Department of Agricultural Economics. Apr 1980. Apr 1980. (80-1). 89 p. 6 ref. (NAL Call No.: HD1775.G4G42).

0057

**Economic impact of conservation tillage in Michigan (Erosion and runoff control).**  
Muhtar, H.A. Black, J.R.; Burkhardt, T.H.; Christenson, D. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-1033). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

0058

**Economics of no-till wheat production.**  
Bauder, J.W. Bozeman, Mont. : The Service. Montguide MT : Agriculture - Montana State University, Cooperative Extension Service. Feb 1983. (8306). 3 p. Includes 4 references. (NAL Call No.: DNAL S544.3.M9M65).

0059

**No-till crop production systems in North Carolina-corn, soybeans, sorghum, and forages.**  
Lewis, W.M. (ed.). Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. Feb 1985. (273). 24 p. ill. Includes references. (NAL Call No.: DNAL S544.3.N6N62).

# FARM ORGANIZATION AND MANAGEMENT

0060

**Budgetary analysis of returns from irrigated vegetable production in Georgia (Multiple crop farming, yields, economic outlook).**  
Alexander, V.J. Tew, B.V.; Smittle, D.A.; Musser, W.N.; Epperson, J.E.; Mizelle, W.O. Jr. Athens, Ga. : The Stations. Research report - University of Georgia, College of Agriculture, Experiment Stations. Aug 1984. Aug 1984. (454). 63 p. ill. Includes 11 references. (NAL Call No.: S51.E22).

0061

**Conservation till: short-run cost for long-run savings.**  
CRSOA. Madison, Wis. : American Society of Agronomy. Crops and soils magazine. Nov 1984. v. 37 (2). p. 26-27. (NAL Call No.: DNAL 6 W55).

0062

**Cost comparisons for alternative tillage practices in western Whitman County.**  
Hinman, H.R. Engle, C.F.; Erickson, D.H.; Willett, G.S. Pullman, Wash., The Service. Extract: This publication presents projected 1981 cost information for a summer fallow-winter wheat rotation grown in western Whitman County under a conventional tillage scheme used by farmers in this area and under an increased soil conserving tillage scheme being practiced by a few farmers. Extension bulletin - Washington State University, Cooperative Extension Service. Apr 1981. Predominantly tables. Apr 1981. (0840). 9 p. (NAL Call No.: 275.29 W27P).

0063

**Cost of alternative tillage practices, central Whitman County, Washington.**  
Hinman, H.R. Engle, C.F.; Erickson, D.H.; Willett, G.S. Pullman, Wash., The Service. Extract: This bulletin presents projected 1981 cost information for a spring barley-summer fallow-winter wheat rotation under two tillage schemes: 1) a conventional scheme currently being practiced by many farmers in this area; and 2) a soil conserving scheme being practiced by a few farmers in the area. A cost comparison is also made between no-till barley and conventional and conservation barley tillage. Extension bulletin - Washington State University, Cooperative Extension Service. Apr 1981. Apr 1981. (0850). 19 p. (NAL Call No.: 275.29 W27P).

0064

**Cost of alternative tillage systems in the winter wheat-dry pea area of the Palouse.**  
Mohasci, S.G. Hinman, H.R. Pullman, Wash., The Service. Extract: Costs and soil loss were determined for six tillage systems used in the dry pea-winter wheat area of the Palouse. No-till tillage saved the most topsoil, but had the highest crop-cycle costs, due to increased chemical costs. The system with the lowest costs used a cultivator for the initial tillage and saved nearly as much topsoil. Three other systems saved considerable amounts of topsoil when compared with moldboard plow tillage and had intermediate two-year costs. Extension bulletin - Washington State University, Cooperative Extension Service. Aug 1981. Aug 1981. (0943). 38 p. (NAL Call No.: 275.29 W27P).

0065

**Costly energy, lower chemical costs will favor less tillage (Savings in field preparation costs for no-till corn and soybeans, costs and returns, United States).**

Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. June 1984. v. 13 (6). p. 4. ill. (NAL Call No.: S604.N6).

0066

**Costs and returns for producing irrigated and dryland crops under conservation tillage systems in the High Plains, New Mexico, 1982 / Robert R. Lansford ... (et al.).**  
Lansford, Robert R. Las Cruces New Mexico State University, Agricultural Experiment Station 1983. Caption title. 78 p. : ill., map ; 27 cm. - Bibliography: p. 27-28. (NAL Call No.: 100 N465R no.502).

0067

**Costs and returns of irrigated multiple-crop production of corn grain, grain sorghum and corn silage in the Georgia Coastal Plains.**  
Tew, B.V. Clifton, I.D.; Epperson, J.E.; Musser, W.N. Athens, The Department. Faculty series FS - Georgia, University, Department of Agricultural Economics. Apr 1980. Apr 1980. (80-1). 89 p. 6 ref. (NAL Call No.: HD1775.G4G42).

0068

**The economics of terracing in Iowa.**  
Krog, D.R. English, B.C.; Schatzer, R.J.; Heady, E.O. Ames, Iowa : The Center. Extract: The general purpose of this study is to determine, from a farmer's perspective, the economic feasibility of terracing in Iowa compared to other means of controlling soil erosion. Specific objectives are: (1) To determine the break-even costs for terracing on

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different Iowa soils under various farm situations. (2) To determine on which soils and under what economic conditions terraces are an economical practice for a farmer. (3) To compare the economics of terracing to that of other conservation practices such as reduced tillage practices, less intense crop rotations, contouring, and strip cropping. CARD report - Iowa State University, Center for Agricultural and Rural Development. Jan 1984. Includes Appendix of tables of costs and profit data, p. 108-164. Jan 1984. (123). 164 p. Includes 28 references. (NAL Call No.: 281.9 I093).

0069

**An economic analysis of soil erosion control in a watershed representing corn belt conditions.**  
Nelson, M.C. Seitz, W.D. Urbana, Ill., Illinois University. Dept. of Agricultural Economics. Extract: The economic impacts of soil erosion control and nitrogen use controls at the farm and watershed levels of aggregation are presented. A multiple-farm-level linear programming model of the production of crops in five-year rotations is used. The model, constructed to represent a 100-year period, gives estimates of the impacts of soil loss and nitrogen use controls at the farm and watershed levels of aggregation over time. Estimates of the impacts on crop selections, soil losses, conservation, and tillage practices and net incomes at the farm and watershed levels are presented. North Central journal of agricultural economics. July 1979. v. 1 (2). p. 173-186. 13 ref. (NAL Call No.: HD1773.A3N6).

0070

**The economic and environmental impacts of an ethanol industry on Western New York.**  
Gould, B.W. College Park, Md. : The Council. Extract: This paper examines the economic, environmental and energy use impacts of a corn based ethanol industry on Western New York State. A regional linear programming model is used. Five representative farm groups are used to describe the agricultural sector of the study region. Comparisons are made between a benchmark solution and model formulations that include conservation tillage practices, ethanol induced feed price changes, and the feeding of the feed by-product, DDG. Journal - Northeastern Agricultural Economics Council. Fall 1982. v. 11 (2). p. 133-138. Includes 17 references. (NAL Call No.: HD1773.A2N6).

0071

**An economic comparison of conservation tillage systems.**  
Jose, H. Doug. 1981. This publication gives summary of analyzed tillage systems and operations of each system. Document available from: University of Nebraska-Lincoln, Dept. of Agricultural Communications, Lincoln, Nebraska 68583. 4 p. (NAL Call No.: Not available at NAL).(NAL Call No.: G81-577).

0072

**An economic examination of an integrated pest management production system with a contrast between E-V and stochastic dominance analysis.**  
Musser, W.N. Tew, B.V. Epperson, J.E. Gainesville, Fla., Southern Agricultural Economics Assoc. Extract: A multiple-crop integrated pest management production system incorporating agronomic and horticultural crops is examined within an E-V and a stochastic dominance framework. The data were from a five-year experiment in Tifton, Georgia. Irrigation and chemigation for the system are provided by a center-pivot irrigation system. The study concludes that, within the range of pest thresholds examined, less intensive pest control would be preferred by risk-averse producers and have lower pesticide usage. Southern journal of agricultural economics. July 1981. v. 13 (1). p. 119-124. 25 ref. (NAL Call No.: HD101.S6).

0073

**Economic impact of conservation tillage in Michigan.**  
Muhtar, H.A. Black, J.R.; Burkhardt, T.H.; Christenson, D. East Lansing, Mich., The Department. Extract: Conservation tillage has a distinct economic advantage over conventional tillage systems. Estimated costs per hectare were lower for four cropping sequences under three textures of well drained soil in the Southeast Saginaw Bay Watershed in Michigan. Agricultural economics staff paper - Michigan State University, Dept. of Agricultural Economics. June 27-30, 1982. Carries second series title: American Society of Agricultural Engineers Paper no. 82-1033. June 27-30, 1982. (82-57). 23 p. Includes 16 references. (NAL Call No.: 918134(AGE)).

0074

**Economic impacts of different tillage systems on net farm income and on soil loss.**  
Salem, M.A. Badger, D.D. Stillwater : The Station. Extract: This study analyzes the impacts of reduced tillage technology as a conservation practice to reduce soil erosion as compared with conventional tillage systems in eastern Oklahoma. Reduced tillage technology in this study refers to both minimum tillage and non-tillage. Minimum tillage refers to production systems that do not use the moldboard plow, that leave enough crop residue on the soil surface to reduce soil erosion, and which use herbicides for weed control. No-tillage practices refer to tillage systems that accomplish weed control with chemicals and where the soil is not tilled. Oklahoma current farm economics - Oklahoma, Agricultural Experiment Station. Dec 1983. v. 56 (4). p. 12-20. Includes 10 references. (NAL Call No.: 100 OK4 (5)).

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0075

**Economic potential of conservation tillage in Iowa (Conventional, reduced and slot-planting, comparison).**

Hamlett, C.A.TAAEA. Colvin, T.S.; Musselman, A. St. Joseph : The Society. Transactions of the ASAE - American Society of Agricultural Engineers. May/June 1983. v. 26 (3). p. 719-722, 727. Includes references. (NAL Call No.: 290.9 AM32T).

served as a benchmark. Potential economic incentives and barriers to adoption of conservation tillage were identified and measured. Short-run economic criteria favored conventional and full-width tillage systems. Higher residue systems were competitive after reallocation of labor and capital. Results indicate that short-run economic penalties may inhibit adoption of conservation tillage. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 291-294. Includes 5 references. (NAL Call No.: 56.8 J822).

0076

**Economic potential of irrigated multiple crop production in the coastal plain of Georgia.**

Tew, B.V. Musser, W.N.; Robertson, J.D. Athens, Ga. : The Stations. Research report - University of Georgia, College of Agriculture, Experiment Stations. Dec 1982. Dec 1982. (4i2). 17 p. Includes 2i references. (NAL Call No.: S51.E22).

0080

**Economics of conservation tillage systems for winter wheat production in Oklahoma.**

Epplein, F.M.JSWCA. Tice, T.F.; Handke, S.J.; Peepo, T.F.; Krenzer, E.G. Jr. Ankeny, IA : Soil Conservation Society of America. Extract: Alternative conservation tillage systems that rely on herbicides rather than mechanical tillage for weed control in annual winter wheat production in Oklahoma were investigated by an interdisciplinary team. The additional costs of the herbicides required for the experimental systems exceeded the value of the fuel and labor saved. However, most conservation tillage systems required less investment in machinery and some proved competitive with conventional systems on a total cost basis. Combination systems in which half the farm was conventionally tilled did not generate substantial savings in machinery investment. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 295-297. Includes 4 references. (NAL Call No.: 56.8 J822).

0077

**Economic results of pest control intensity for a multiple cropping system (Turnip greens, Zea mays, southern peas, Vigna unguiculata, net returns, United States).**

Epperson, J.E. Dowler, C.C.; Chalfant, R.B.; Johnson, A.W.; Glaze, N.C.; Sumner, D.R. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1982. v. 107 (4). p. 624-627. 19 ref. (NAL Call No.: 81 S012).

0078

**Economics of conservation tillage in Iowa.**

Pope, C.A. IIIJSWCA3. Bhide, S.; Heady, E.O. Ankeny, IA : Soil Conservation Society of America. Extract: Conservation tillage systems, in a study using linear programming models, were shown to be economically viable methods of reducing soil erosion in Iowa. In cases where yields remained the same under conservation tillage, net returns to farming sometimes rose as a result of the switch from conventional tillage to conservation tillage. In cases where a reasonable reduction in yields was assumed under conservation tillage, soil erosion was still controlled most economically by conservation tillage systems. Journal of soil and water conservation. July-Aug 1983. v. 38 (4). p. 371-373. Includes ii references. (NAL Call No.: 56.8 J822).

0081

**Economics of new ways.**

College Station, Tex. : Texas Water Resources Institute and Texas Agricultural Experiment Station. Water currents. Winter 1984. v. 3 (4). p. 4. ill. (NAL Call No.: DNAL S494.5.W3W34).

0079

**Economics of conservation tillage in Iowa.**

Jolly, R.W.JSWCA. Edwards, W.M.; Erbach, D.C. Ankeny, IA : Soil Conservation Society of America. Extract: Farm-level risks and returns were examined for corn and soybeans grown in rotation using three conservation tillage systems. A conventional moldboard plow system

0082

**Economics of no-till crop production.**

Swenson, A.L. Johnson, R.G. Fargo, N.D. : The Station. Extract: When proper management has been utilized, spring seeded small grain yields under no-till are similar to conventional tillage yields. Costs of no-till on continuous cropping are slightly higher than production with conventional tillage practices when reductions are made in the amount of machinery owned. The high herbicide expenditures of complete chemical fallow presently make it economically uncompetitive with mechanical fallow. Substantial cost and labor distribution advantages of raising winter wheat in untilled seedbeds make it an attractive alternative to conventional spring seedings. Seeding directly into stubble provides a more favorable environment for overwinter survival, enabling winter wheat production in areas previously considered too risky. North Dakota farm

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research - North Dakota, Agricultural Experiment Station. Jan/Feb 1982. v. 39 (4). p. 14-17. Includes 8 references. (NAL Call No.: 100 N813B).

**0083**

**Economics of winter cover crops as a source of nitrogen for no-till corn.**  
JSWCA3. Frye, W.W. Smith, W.G.; Williams, R.J. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Mar/Apr 1985. v. 40 (2). p. 246-249. Includes 11 references. (NAL Call No.: DNAL 56.8 J822).

**0084**

**Estimates of operating cost differences between reduced and conventional tillage for continuous wheat production.**

Epplin, F. Jobes, R.; Peepoer, T.; Stiegler, J. Stillwater, Okla., The Department. Extract: The purpose of this paper is to present comparisons of the operating costs of two "experimental" reduced tillage wheat production systems with the costs of a conventional clean tillage system. The conventional system is representative of current practices in north central Oklahoma. The reduced tillage systems have been proposed as technical alternatives to conventional practices. They reflect recent advances in grain drill modifications and weed control systems. A. E. paper - Oklahoma State University, Dept. of Agricultural Economics. Sept 1981. Sept 1981. (AE 8195). 10 p. 6 ref. (NAL Call No.: HD1775.D5D3).

**0085**

**Evaluation of agricultural sediment control practices relative to water quality planning.**  
Robillard, P.D. Walter, M.F.; Hexem, R.W. Amherst, The Council. Extract: Control of sediment has become increasingly important as an element of many water quality improvement programs. An analytical method using the universal soil loss equation and linear programming to determine the cost-effectiveness of alternative sediment control practices is developed. Applications of this method to four case study farms and a hypothetical watershed are analyzed. The analyses illustrate the need for developing priorities so as to achieve greatest reduction in sediment losses per dollar of cost. The costs per unit of sediment reduction vary greatly with area, soil, and strategy or technique used. Journal - Northeastern Agricultural Economics Council. Apr 1980. v. 9 (1). p. 29-36. 10 ref. (NAL Call No.: HD1773.A2N6).

**0086**

**Farmers' experience with no-till corn production in Ontario county, New York.**  
Wentzel, R. Robinson, K.L. Ithaca, N.Y. : The Station. A.E. Res. - New York State College of Agriculture and Life Sciences, Department of Agricultural Economics, Cornell University, Agricultural Experiment Station. Jan 1983. Jan 1983. (83-8). 20 p. Includes 22 references. (NAL Call No.: 281.9 C81A).

**0087**

**Farmers' experiences with reduced tillage systems.**

Hemmer, R.F. Forster, D.L. Columbus, The Service. Socio-economic information - Cooperative Extension Service, Ohio State Univ, Agricultural Economics and Rural Sociology. Aug 1981. Aug 1981. (636). p. 1-2. 1 ref. (NAL Call No.: 275.29 DH32TI).

**0088**

**Getting conservation practices adopted: a farm manager's viewpoint.**

Bennett, M. Columbia, Mo. : The Station. Special report - University of Missouri-Columbia, Agricultural Experiment Station. Nov 11-12, 1982. Nov 11-12, 1982. (290). p. 53-56. (NAL Call No.: S534.M8M5).

**0089**

**Herbs as a small farm enterprise and the value of aromatic plants as economic intercrops.**

Duke, J.A. Washington, D.C., The Department. Miscellaneous publication - United States Dept. of Agriculture. July 1982. July 1982. (1422). p. 76-83. 25 ref. (NAL Call No.: 1 AG84M).

**0090**

**Impacts of reduced tillage on operating inputs and machinery requirements.**

Epplin, F.M. Tice, T.F.; Baquet, A.E.; Handke, S.J. Ames, Iowa, American Agricultural Economics Association. Extract: In this paper we present some work regarding alternative tillage systems for wheat production in Oklahoma. We include a section describing the physical and economic environment which has prompted our efforts in this area. Other sections describe our approach to estimating resource requirements of alternative systems. American journal of agricultural economics. Dec 1982. v. 64 (5). p. 1039-1046. Includes 13 references. (NAL Call No.: 280.8 J822).

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0091

**Impacts of reduced tillage on operating inputs and machinery requirements: discussion.**

Elefeld, B. Ames, Iowa, American Agricultural Economics Association. American Journal of agricultural economics. Dec 1982. v. 64 (5). p. 1050-1052. Includes 4 references. (NAL Call No.: 280.8 J822).

0092

**Income and risk associated with various pest management levels, tillage systems, and crop rotations: an analysis of experimental data.**  
Zavaleta, L.R. Elefeld, B.; Kogan, M.; Wax, L.; Kuhlman, D.; Lim, S.M. Urbana, Ill. : The Department. Extract: Budgets for producing and protecting corn and soybean crops were generated for three cropping systems using three levels of pest management and two tillage practices. The corn-soybean rotation produced higher yields and higher net returns than either the continuous corn or soybean cropping system, and it generally had the lowest risk for any of the tillage systems at each management level. Neither conventional nor reduced tillage appeared to dominate; neither did high, medium, or low chemical input dominate. AERR - University of Illinois, Department of Agricultural Economics. Apr 1984. Apr 1984. (191). 19 p. Includes 10 references. (NAL Call No.: 281.9 IL62).

0093

**Inflation feeds intercropping--and some consequences (Almond tree cultivation, management).**

Sacramento, California Almond Growers Exchange. Almond facts. May/June 1981. v. 46 (3). p. 17, 19-21. ill. (NAL Call No.: 280.28 AL62).

0094

**Jojoba intercropping systems (Costs and returns).**

Childs, P.C. Breen, R.E. Jr. Tucson, Office of Arid Lands Studies, University of Arizona. Jojoba happenings. Mar 1980. Mar 1980. (30). p. 8-10. ill. (NAL Call No.: SB299.J6J6).

0095

**Looking back for new ideas (Reduced reliance on chemicals, reduced tillage, diversified cropping systems, alternative fuel use, less tractor power in U.S. agricultural production in the future).**

Overland, Kan. : Intertec Publishing Corporation. Implement & tractor. Jan 1984. v. 99 (1). p. 11-17. (NAL Call No.: 58.8 W41).

0096

**My experience with conservation by limited tillage.**

Welsh, R. Columbia, Mo. : The Station. Special report - University of Missouri-Columbia, Agricultural Experiment Station. Nov 11-12, 1982. Nov 11-12, 1982. (290). p. 29-31. (NAL Call No.: S534.M8M5).

0097

**No-till seeder cost.**

Moore, J.M. Blacksburg : Extension Division, Virginia Polytechnic Institute and State University. Extract: Many farmers are interested in no-till grass or legume seeders....This publication looks solely at the ownership cost of a no-till seeder....The ownership cost of a no-till seeder depends upon several factors, many of which are unknown because it is so new....Two types of owners may wish to know their ownership cost. One is a farmer who plans to use the seeder himself and, perhaps also, to rent it to neighbors. The other is a public agency...that wants to rent the seeder to farmers. There is a difference in the cost calculations for these owners....Both options are shown. Publication - Extension Division, Virginia Polytechnic Institute and State University. Nov 1982. Predominantly tables. Nov 1982. (446-004). 8 p. (NAL Call No.: S544.3.V8V52).

0098

**Pest management in experimental soybean cropping systems: a preliminary economic and risk analysis.**

Zavaleta, L.R. Elefeld, B.; Starr, V.B.; Kogan, M.; Wax, L.; Helm, C.; Lim, S.M.; Kuhlman, D. Urbana, Ill. : The Department. Extract: Crop production-protection budgets for soybean were generated for three levels of pest management and two tillage practices. For the data analyzed, results indicated that high levels of pest management always resulted in a less risky alternative. Conversely, reduced tillage practices tended to increase the variability in yields and returns. Illinois agricultural economics staff paper, series E agricultural economics - University of Illinois, Department of Agricultural Economics. Apr 1983. Apr 1983. (E-253). 26 p. Includes 5 references. (NAL Call No.: 916937(AGE)).

0099

**Pesticide use and practices, 1982.**

Duffy, M. Washington : The Department. Extract: Pesticide use varies considerably by crop, according to the Economic Research Service's 1982 Crop and Livestock Pesticide Usage Survey. Eleven percent of farmers who responded used professional scouting for pest problems, 59 percent self scouted their fields, and 12 percent were aware of beneficial insects and diseases. The extent of no- or reduced-till

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systems varied by crop. Almost 70 percent of the farmers with livestock used insecticides for livestock insect control. A majority of the respondents used common pesticide application safety equipment and 15 percent used specialized safety equipment. Agriculture information bulletin - U.S. Dept. of Agriculture. Dec 1983. Predominantly tables. Dec 1983. (462). 14 p. (NAL Call No.: i AG84AB).

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### Production and economic returns of vegetable intercropping systems.

JOSHB. Brown, J.E. Splittstoesser, W.E.; Gerber, J.M. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. May 1985. v. 110 (3). p. 350-353. Includes 13 references. (NAL Call No.: DNAL 81 S012).

0101

### Programmed interrelationships between soil loss and exports.

Short, C. Heady, E.O. Ames, Iowa : The Center. Extract: The purpose of this study is to study potential relationships between soil loss and export levels when different amounts of land can be transferred into the cropland base. The study is not an attempt to determine the extent to which soil erosion increased as agricultural production was intensified under growing exports and favorable prices after 1972. Instead it examines whether increased soil loss in different regions of the United States must increase at various future levels of exports. It is possible that under larger exports and higher commodity prices, it might be profitable for farmers to use sufficient conservation practices to hold soil erosion in check. That is, soil erosion may not be a required condition of higher export levels. The study, therefore, also studies the cropping or land use system, the conservation practices and tillage methods which might arise if various export levels were attained in the future. CARD report - Iowa State University, Center for Agricultural and Rural Development. Sept 1983. Sept 1983. (120). 97 p. Includes 23 references. (NAL Call No.: 281.9 I093).

0102

### Returns to corn and soybean tillage practices.

Duffy, M. Hanthorn, M. Washington, D.C. : The Department. Extract: Average per-acre returns differ little for most U.S. corn and soybean farmers using various alternative tillage strategies, according to this analysis of 1980 farm-level production data. Midwest conventional-till soybean farmers, however, accrue a significantly higher average return than do Midwest no-till farmers. Most conservation-till soybean farmers in the three major producing regions incur significantly lower input costs than do conventional-till

soybean farmers, but also harvest lower yields except in the Southeast. Significant differences were found in the use of specific corn and soybean inputs among alternative tillage strategies. Agricultural economic report - United States Dept. of Agriculture. Jan 1984. Jan 1984. (508). 14 p. Includes 23 references. (NAL Call No.: A281.9 AG8A).

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### Short- and long-term cost comparisons of conventional and conservation tillage systems in corn production.

JSWCA3. Mueller, D.H. Klemme, R.M.; Daniel, T.C. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Sept/Oct 1985. v. 40 (5). p. 466-470. Includes 29 references. (NAL Call No.: DNAL 56.8 J822).

0104

### Soil erosion and conservation in Monroe County, Missouri: farmers' perceptions, attitudes, and performances.

Ervin, D.E. Alexander, C.T. Columbia, Missouri, The Department. Paper - University of Missouri-Columbia, Dept. of Agricultural Economics. Feb 10, 1981. Feb 10, 1981. (1981-10). 52 p. 6 ref. (NAL Call No.: 917437(AGE)).

0105

### A stochastic dominance comparison of reduced tillage systems in corn and soybean production under risk.

Klemme, R.M. Ames, Iowa : American Agricultural Economics Association. Extract: Returns per acre of reduced tillage systems including conventional, chisel, till-plant, and no-till are examined under general assumptions concerning risk. These returns are calculated using corn and soybean experimental plot yields. Stochastic dominance rankings indicate an advantage (second degree) of conventional and chisel over no-till when soil loss costs are not assigned. Annual per acre soil loss costs of \$5-15 shift rankings towards the reduced tillage systems. A \$10 per acre cost results from corn yield losses of 0.06% per year (170 bushel per acre yield base) over fifty years with a 5% real discount rate. American journal of agricultural economics. Aug 1985. v. 67 (3). p. 550-562. Includes 14 references. (NAL Call No.: DNAL 280.8 J822).

0106

### A total energy model for cotton production.

Sistler, F.E. Smith, P.A. Baton Rouge, The Station. Louisiana agriculture - Louisiana Agricultural Experiment Station. Summer 1981. v. 24 (4). p. 22-23. (NAL Call No.: 100 L939).

0107

**Waterfowl production on zero tillage farms  
(Manitoba).**

Cowan, W.F. WLSBA. Bethesda : The Society.  
Wildlife Society bulletin. Winter 1982. v. 10  
(4). p. 305-308. 13 ref. (NAL Call No.:  
SK357.A1W5).

0108

**What is conservation tillage.**

Manning, J.V. USWCA. Fenster, C.R. Ankeny, IA  
: Soil Conservation Society of America.  
Extract: Conservation tillage is "any (emphasis  
added) tillage system that reduces loss of soil  
or water relative to conventional tillage;  
often a form of noninversion tillage that  
retains protective amounts of residue mulch on  
the surface." Conventional tillage, on the  
other hand, is "the combined primary and  
secondary tillage operations performed in  
preparing a seedbed for a given crop grown in a  
given geographical area. Journal of soil and  
water conservation. May-June 1983. v. 38 (3).  
p. 141-143. Includes 5 references. (NAL Call  
No.: 56.8 J822).

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**Conservation tillage: revolution or evolution?.**  
JSWCA3. Nowak, P.J. Korschning, P.F. Ankeny,  
Iowa : Soil Conservation Society of America.  
Journal of soil and water conservation. Mar/Apr  
1985, v. 40 (2). p. 199-201. ill. Includes 17  
references. (NAL Call No.: DNAL 56.8 J822).

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**Costs and returns of irrigated multiple-crop vegetable production in the Georgia Coastal Plains / by Bernard V. Tew ... (et al.).**  
Tew, Bernard V. (Athens) Division of Agricultural Economics, College of Agriculture, University of Georgia 1981. 136 leaves : map ; 29 cm. - Bibliography: leaf 17. (NAL Call No.: HD1775.G4G42 no. 81-3).

0111

**Crop chemical delivery systems for the '80s--and beyond.**  
AGENA. Lundeen, R.W. St. Joseph, Mich. : American Society of Agricultural Engineers. Agricultural engineering. Oct 1985. v. 66 (10). p. 13-15. (NAL Call No.: DNAL 58.8 AG83).

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**Multiple crop supply and factor demand component of the world Grains, Oilseeds, and Livestock model.**  
Liu, K. Washington, D.C., The Service. Extract: This paper reviews the crop supply component of the world Grains, Oilseeds, and Livestock (GOL) model and attempts to develop an improved conceptual framework for specifying the multiple crop supply and input demand relationships in the GOL model. As a basis for examining and revising the crop supply component, the theoretical foundations for a multiple product production system and empirical studies related to agricultural commodity supply response were reviewed. The revised specification of the crop supply equations consists of a nonlinear equation system of area, yield and production. The major emphasis on the revision of the crop supply component is to ensure consistent acreage allocation among crop alternatives, to more realistically capture cross-price effects or substitution possibilities between alternative crops and to include policy variables to reflect the effects of government farm policies on crop supply response. ERS staff report - U.S. Dept. of Agriculture, Economic Research Service. Aug 1981. Available from NTIS. Aug 1981. (AGESS810812). 49 p. 67 ref. (NAL Call No.: 916762(AGE)).

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An analysis of the role of legumes in multiple cropping systems (for small farmers). Gomez, A.A. Zandstra, H.G. Honolulu, The Service. Miscellaneous publication. Hawaii. University. Cooperative Extension Service. 1977. 1977. (145). p. 81-95. ill. 20 ref. (NAL Call No.: S544.3.H3H3).

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Annual progress report - 1980 : Shelby-Grundy Research Center, Beaconsfield, Iowa / Iowa State University of Science and Technology. 1981. This publication provides test information on grain sorghum, winter wheat, birdsfoot trefoil, and alfalfa management. Limestone rates and pasture interseeding systems are covered. Document available from: Iowa State Univ., Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011. 14 p. : ill. (NAL Call No.: Not available at NAL). (NAL Call No.: ORC 80-02).

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C factors for no-till and conventional-till soybeans from plot data. McGregor, K.C. St. Joseph, Mich. Transactions of the ASAE-American Society of Agricultural Engineers. Nov/Dec 1978. v. 21 (6). p. 1119-1122. ill. 5 ref. (NAL Call No.: 290.9 AM32T).

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Conventional and zero-till planted alfalfa with various pesticides. Faix, J.J. Graffis, D.W. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC.Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 117-123. ill. 8 ref. (NAL Call No.: S1.D5).

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Double-cropping and interplanting, June 1982-December 1983. MacLean, J.T. Beltsville, Md. : The Library. Quick bibliography series - National Agricultural Library. Mar 1984. Updates 82-29 ~Bibliography. Mar 1984. (84-18). 19 p. (NAL Call No.: aZ5071.N3).

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Effects of small grain (wheat and barley) stubble height and mulch on no-tillage soybean production (Double crop). Hovermale, C.H. Camper, H.M. Madison. Agronomy journal American Society of Agronomy. July/Aug 1979. v. 71 (4). p. 644-647. ill. 16 ref. (NAL Call No.: 4 AM34P).

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An eleven-year comparison of 0 (zero)-till, conventional and plow-plant corn culture. McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC.Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 31-33. ill. 1 ref. (NAL Call No.: S1.D5).

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Evaluation of legume intercropping in conservation of fertilizer nitrogen in maize culture. Nair, K.P.P. Patel, U.K. Cambridge, Cambridge University Press. Journal of agricultural science. Aug 1979. v. 93 (pt.1). p. 189-194. ill. 9 ref. (NAL Call No.: 10 J822).

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Fundamentals of no-till farming / (Robert W. Rice, author-editor). Rice, Robert W. Athens, Ga. American Association for Vocational Instructional Materials 1983. Includes index ~"AGDEX 519.". 148 p. : col. ill., map ; 28 cm. Bibliography: p. 143-144. (NAL Call No.: S604.R5 1983).

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**Grain sorghum production: with reduced tillage, after wheat, in central Kansas (Cropping).**  
Nilson, E.B. Phillips, W.M. Manhattan, Kan., The Service. C.Kansas State University. Cooperative Extension Service. Sept 1978. Sept 1978. (477). 12 p. ill. map. (NAL Call No.: 275.29 K13EX).

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**Grain yields and land equivalent ratios from intercropping corn and soybeans in Minnesota.**  
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**Graphical assessment of intercropping methods (Maize and cassava as an example).**  
Pearce, S.C. G111iver, B. Cambridge, Cambridge University Press. Journal of agricultural science. Aug 1979. v. 93 (pt.1). p. 51-58. ill. 7 ref. (NAL Call No.: 10 J822).

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**A guide to no-till sod planting in Indiana.**  
Griffith, D. R. Williams, J. L.; Doster, D. H.; Mengel, D. B.; Scott, D. H.; Parsons, S. D.; Turpin, F. T. 1980. The purpose of this publication is to show the benefits of no-till sod plantings, where no-till sod planting is adapted, the equipment needed, sod kill techniques and weed control for no-till sod planting, fertilizing no-till sod planted crops, insect control, rodent control, disease control of no-till sod planted crops. Document available from: Mailing Room, Ag. Administration Bldg., Purdue University, West Lafayette, IN 47907. 7 p. : ill. (NAL Call No.: ID-133).

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**How California cotton producers are beating the cost-price squeeze (Narrow-row cotton, minimum tillage, once-over harvest machines, movable module builders).**  
Drum, D. Apr 1979. v. 94 (4). Progressive farmer for the West. Apr 1979. v. 94 (4). p. 47N-48N. ill. (NAL Call No.: 6 T311).

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**The interference production principle: an ecological theory for agriculture (Intercropping).**  
Vandermeer, J. Stony Brook, N.Y., Stony Brook Foundation. The Quarterly review of biology. Mar 1981. v. 56 (1). p. 361-364. 18 ref. (NAL

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Krueger, C.R. Vigil, F.R. St. Paul, Minn., The Region. Agricultural reviews and manuals. ARM-NC. United States. Dept. of Agriculture. Science and Education Administration. Agricultural Research. North Central Region. July 1979. July 1979. (7). p. 19. (NAL Call No.: aS21.A75U69).

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**Interseeding legumes into grass sod (Varieties, yields).**  
Graffis, D.W. Madison, Wis., The Department. Progress report, clovers and special purpose legumes research. Wisconsin. University. Dept. of Agronomy. 1978. v. 11. p. 21-26. ill. (NAL Call No.: SB193.P72).

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Jeffers, D.L. Triplett, G.B. Jr. Wooster, The Center. Ohio report on research and development in agriculture, home economics, and natural resources. Ohio. Agricultural Research and Development Center. Sept/Oct 1979. v. 64 (5). p. 67-70. ill. (NAL Call No.: 100 OH3S (3)).

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Gregoire, Terry. VanderVorst, Blake.; Sobolik, Frank. & Plant science section. Document available from: North Dakota State University, Dept. of Agricultural Communications, Fargo, North Dakota 58105 1983. Discusses the system eliminating primary tillage operations and emphasizing minimum disturbance of the soil surface during seeding and other crop production operations. 5 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: A-797).

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**No-till drills for recropping.**  
Krall, J. Dubbs, A. Bozeman, Mont., The Station. Bulletin. Montana. Agricultural Experiment Station. July 1979. July 1979. (716). 21 p. ill. (NAL Call No.: 100 M76 (1)).

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No-tillage maize production in chemically suppressed grass sod (*Festuca arundinacea*, *Poa pratensis*, herbicides, erosion control). Elkins, D.M. Vandeventer, J.W. Madison. *Agronomy journal*. American Society of Agronomy. Jan/Feb 1979. v. 71 (1). p. 101-105. ill. 9 ref. (NAL Call No.: 4 AM34P).

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The pro's and con's of minimum tillage in corn. Triplett, G.B. Jr. Washington, D.C., American Seed Trade Association. Proceedings of the ... annual corn and sorghum research conference. American Seed Trade Association. Corn and Sorghum Division. Corn and Sorghum Research Conference. 1976. 1976. (31st). p. 144-158. ill. 16 ref. (NAL Call No.: 59.9 AM32).

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Raising biological ceilings through interplanting (with legumes). Smyser, S. Emmaus, Pa., Rodale Press. The New farm. Jan 1979. v. 1 (1). p. 33-41. ill., map. (NAL Call No.: S1.N32).

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Vegetables suitable for association with subsistence maize and beans in the highlands of Guatemala (*Crop yields, intercropping*). Kass, D.C.L. (v.p.) : The Society. *Proceedings of the Tropical Region, American Society for Horticultural Science* : annual meeting. 1982. v. 25. p. 219-228. Includes references. (NAL Call No.: 81 AM325).

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Yield potential of interplanted annual food crops in southeastern U. S. (*Maize, soybeans, kidney beans, sweetpotatoes*). Cordero, A. McCollum, R.E. Madison, The Society. *Agronomy journal*. American Society of Agronomy. Sept/Oct 1979. v. 71 (5). p. 834-842. ill. 11 ref. (NAL Call No.: 4 AM34P).

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0145

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1983-84 agronomy guide / Ohio State University. Document available from: Ohio State University, Extension Publication Office, 2120 Fyffe Road, Columbus, Ohio 43210 1983. Presents a valuable reference on information on Ohio's climate, soils, soil conservation, fertilizer and lime use, tillage seed selection and quality, crop variety selection, crop production practices, weed control and herbicides, and many other topics. 99 p. : ill. (NAL Call No.: Document available from source.).(NAL Call No.: Bulletin 472).

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0147

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Stiles, W.C. North Amherst, Mass. : The Association. New England fruit meetings ... Proceedings of the ... annual meeting - Massachusetts Fruit Growers' Association. 1984. 1984. (90th). p. 62-69. Includes references. (NAL Call No.: 81 M384).

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**Armyworms as a pest of no-till corn.**

Roberts, J. E. Blacksburg Extension Division, Cooperative Extension, Virginia Polytechnic Institute and State University 1975. 3 p. -. (NAL Call No.: SB612.V8V8 no.151 1975).

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Borst, G. Vista, Calif. : Rancher Pub. Avocado grower. Apr 1984. v. 8 (4). p. 19-20. ill. Includes 5 references. (NAL Call No.: DNAL SB379.A9A9).

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**Budgetary analysis of returns from irrigated vegetable production in Georgia (Multiple crop farming, yields, economic outlook).**

Alexander, V.U. Tew, B.V.; Smittle, D.A.; Musser, W.N.; Epperson, J.E.; Mizelle, W.O. Jr. Athens, Ga. : The Stations. Research report - University of Georgia, College of Agriculture, Experiment Stations. Aug 1984. Aug 1984. (454). 63 p. ill. Includes 11 references. (NAL Call No.: S51.E22).

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**Costs and returns of irrigated multiple-crop production in the Georgia coastal plain /by Bernard V. Tew... et al. . -.**

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**Costs and returns of irrigated multiple-crop production in the Georgia Coastal Plains, 1980- / by Bernard V. Tew ... (et al.).**

Tew, Bernard V. (Athens, Ga.) Division of Agricultural Economics, College of Agriculture, University of Georgia 1983. v. : map ; 29 cm. -. Includes bibliographies. (NAL Call No.: HD1775.G4G42 no.83-2 etc.).

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Tew, Bernard V. (Athens, Ga.) Division of Agricultural Economics, College of Agriculture, University of Georgia 1983. v. : map ; 29 cm. -. Includes bibliographies. (NAL Call No.: HD1775.G4G42 no.83-2 etc.).

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**Costs and returns of irrigated multiple-crop production of corn grain, grain sorghum and corn silage in the Georgia coastal plains / by Bernard V. Tew ... (et al.).**

Tew, Bernard V. (Athens) Division of Agricultural Economics, College of Agriculture, University of Georgia (1980?). "April, 1980". 89 leaves ; 28 cm. -. Includes bibliographical references. (NAL Call No.: HD1775.G4G42 no.80-1).

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**Cover crops for no-tillage production of cabbage and broccoli.**

Morse, R. Seward, D. Virginia Beach, Va. : Virginia Polytechnic Inst. and State University Cooperative Ext. Service. The Vegetable growers news. Nov/Dec 1984. v. 39 (3). p. 1, 4. (NAL Call No.: DNAL 275.28 V52).

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**Cover vegetation in filberts and Christmas trees (No-till methods, Oregon).**

Lagerstedt, H. Corvallis, Or. : International Plant Protection Center, Oregon State University, 1982. Crop production using cover crops and sods as living mulches : workshop

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proceedings / edited by J.C. Miller and S.M. Bell. p. 56-66. (NAL Call No.: S661.5.C7).

0159

**Effect of growth habit of beans of tolerance to competition from maize when intercropped (Genotype X cropping system interaction, harvest index, Colombia).**

Davis, J.H.C. Beuningen, L. van; Ortiz, M.V.; Pino, C. Madison, Wis. : Crop Science Society of America. Crop science. July/Aug 1984. v. 24 (4). p. 751-755. ill. Includes references. (NAL Call No.: 64.8 C883).

0160

**Effect of minimum tillage methods on the succeeding potato crop in the San Luis Valley.**  
Walker, J.G. Ft. Collins, Colo. : The Station. Progress report - Colorado Experiment Station. Oct 1984. (18). 3 p. (NAL Call No.: DNAL 100 C71C).

0161

**Effect of traditional insect-repellent plants on insect numbers in a mixed planting system.**  
Matthews, D.L. Michalak, P.S.; MacRae, R.J. New York : Praeger, 1983. Environmentally sound agriculture : selected papers, 4th conference, International Federation of Organic Agriculture Movements, Cambridge, Mass., August 18-20, 1982 / edited by William Lockeretz. p. 117-127. Includes references. (NAL Call No.: DNAL S604.5.E58).

0162

**Effect on tanier yields of artificial shade levels and of intercropping with plantains (Tropical root crop, Puerto Rico).**  
Rodriguez-Garcia, J. Abruna, F.; Diaz, N. Rio Piedras, The Station. The Journal of agriculture of the University of Puerto Rico - Puerto Rico, Agricultural Experiment Station. Oct 1981. v. 65 (4). p. 326-330. 6 ref. (NAL Call No.: 8 P832J).

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**Effects of conservation tillage practices on crop yields in the Lake Erie Basin / by Donald J. Eckert.**  
Eckert, Donald J. Buffalo Lake Erie Wastewater Management Study, U.S. Army Corps of Engineers, Buffalo District Springfield, Va. available from NTIS 1981. "December 1981." v. 23 leaves ; 28 cm. Bibliography: leaves 22-23. (NAL Call No.: S602.87.E3).

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**Effects of management practices on nematode and fungus populations and cucumber yield (Multiple cropping).**

Johnson, A.W. Sumner, D.R. Ames, Iowa Society of Nematologists. Journal of nematology. Jan 1979. v. 11 (1). p. 84-93. ill. 16 ref. (NAL Call No.: QL391.N4J62).

0165

**Effects of no-tillage and herbicides on carrot and onion seed production.**

Campbell, W.F. Anderson, J.L. Alexandria, Va., American Society for Horticultural Science. HortScience. Oct 1980. v. 15 (5). p. 662-664. ill. 6 ref. (NAL Call No.: SB1.H6).

0166

**Effects of no tillage and various tillage methods on yields of maize, field beans and pepper grown on a mollisol in southern Puerto Rico.**

JAUPA. Lugo-Mercado, H.M. Badillo-Feliciano, J.; Ortiz-Alvarado, F.H. Mayaguez : University of Puerto Rico, Agricultural Experiment Station. The Journal of agriculture of the University of Puerto Rico. Oct 1984. v. 68 (4). p. 349-354. Includes 15 references. (NAL Call No.: DNAL 8 P832J).

0167

**Growing peachespruning, renewal of tops, thinning, interplanted crops, and special practices /by H.P. Gould.** -

Gould, H. P. Washington, D.C. : U.S. Dept. of Agriculture, 1915. 23 p. : ill. - . Includes bibliographical references. (NAL Call No.: DNAL Fiche S-70 no. 632).

0168

**Guava: companion crop for avocados.**

Sweet, C. Vista, Calif., Rancher Publications. Avocado grower. May 1979. v. 3 (5). p. 48-49, 57. (NAL Call No.: SB379.A9A9).

0169

**Heritabilities of grain yield of common bean in sole crop and in intercrop with maize (Harvest index).**

Zimmermann, M.J.O. Rosielle, A.A.; Waines, J.G. Madison, Wis. : Crop Science Society of America. Crop science. July/Aug 1984. v. 24 (4). p. 641-644. Includes references. (NAL Call No.: 64.8 C883).

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0170

**Inflation feeds intercropping--and some consequences (Almond tree cultivation, management).**  
Sacramento, California Almond Growers Exchange. Almond facts. May/June 1981. v. 46 (3). p. 17, 19-21. ill. (NAL Call No.: 280.28 AL62).

0171

**Intercropping research yields needed information (Tomato, beans, computer modeling, Michigan).**  
East Lansing, The Station. Michigan science in action - Michigan, Agricultural Experiment Station. 1981. 1981. (45). p. 18-19. ill. (NAL Call No.: S1.M5).

0172

**Interplanting: is it worth the headaches? (Citrus and avocados, Phytophthora cinnamomi, cultural control).**  
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0204

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0205

**Conventional and no-till establishment of Ladino clover as influenced by time of seeding and insect and grass suppression.**  
AGDOAT. Rogers, D.D. Chamblee, D.S.; Mueller, J.P.; Campbell, W.V. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. July/Aug 1985. v. 77 (4). p. 531-538. Includes 15 references. (NAL Call No.: DNAL 4 AM34P).

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0207

**Costs and returns of irrigated multiple-crop production in the Georgia coastal plain /by Bernard V. Tew... et al. . -.**  
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**Costs and returns of irrigated multiple-crop production in the Georgia coastal plain, 1982 /by G. Scott Smith ... et al. . -.**  
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**Costs and returns of irrigated multiple-crop production in the Georgia Coastal Plains, 1980- / by Bernard V. Tew ... (et al.).**  
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**Costs and returns of irrigated multiple-crop production in the Georgia Coastal Plains, 1980- / by Bernard V. Tew ... (et al.).**  
Tew, Bernard V. (Athens, Ga.) Division of Agricultural Economics, College of Agriculture, University of Georgia 1983. v. : map ; 29 cm. - . Includes bibliographies. (NAL Call No.: HD1775.G4G42 no.83-2 etc.).

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**Crop residue management in no-tillage winter wheat with precipitation over 18 inches per year.**  
Cochran, V. Pullman, Wash., The Service. EM - Washington State University, Cooperative Extension Service. May 1980. May 1980. (4576). 1 p. (NAL Call No.: 275.29 W27MI).

0213

**Double cropping (corn, soybeans) and reduced tillage research.**  
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0214

**Double cropping winter wheat and soybeans in Indiana.**  
Swearingin, Marvin L. Bauman, Thomas T.; Robbins, Paul R.; Edwards, Richard.; Doster, D. Howard.; Parsons, Samuel D. 1979. This publication extensively covers double cropping winter wheat and soybeans in Indiana. The contents of the article covers an overview of double cropping in Indiana. Management suggestions for no-till double cropping, profit potential of double cropping wheat and soybean, weed control in double cropping, insect control, along with harvesting and drying high moisture wheat. Document available from: Mailing Room, Ag. Administration Bldg., Purdue University, West Lafayette, IN 47907. 22 p. : ill. (NAL Call No.: ID-96).

0215

**Drills and seeders for heavy residues and untilled soils (Small grain planting equipment, minimum tillage farming, Kansas).**  
Powell, G.M. Manhatten : The Service. L - Cooperative Extension Service, Kansas State University. June 1982. June 1982. (634). 8 p. ill. (NAL Call No.: 275.29 K13LE).

0216

**Economics aspects of no-tillage farming (to reduce costs and improve yields, but it also can reduce erosion to acceptable levels).**  
Hudson, E.H. Muscle Shoals, Ala. : National Fertilizer Development Center, Tennessee Valley Authority, 1981. Southeastern soil erosion control and water quality workshop : November 19-21, 1980, Nashville, Tennessee. p. 68-70. (NAL Call No.: S624.A13S6 1980).

0217

**Economics of winter cover crops as a source of nitrogen for no-till corn.**  
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0218

**Effect of applied and residual P (phosphorus) on double-cropped wheat and soybean under conservation tillage management (Triticum aestivum, Glycine max).**  
Sharpe, R.R. AGJDAT. Touchton, J.T.; Boswell, F.C.; Hargrove, W.L. Madison : American Society of Agronomy. Agronomy journal. Jan/Feb 1984. v. 76 (1). p. 31-35. ill. Includes references. (NAL Call No.: 4 AM34P).

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**The effect of N (nitrogen) fertilizer source on grain yield, N (nitrogen) uptake, soil pH (hydrogen ion concentration) and lime requirement in no-till corn.**  
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0222

**Effect of spray/planting intervals and various grass sods on no-till establishment of alfalfa.**  
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0223

**Effect of time of ridging soybeans on soybean production in a ridge-plant system.**

MXMRA. Randall, G.W. Walters, D.T.; Kelly, P.L. St. Paul : The Station. Miscellaneous publication - University of Minnesota, Agricultural Experiment Station. 1985. (2,rev.). p. 117-120. (NAL Call No.: DNAL S1.M52).

0224

**Effect of time of ridging soybeans on soybean production in a ridge-plant system (Conservation tillage, Minnesota).**

Randall, G.W. MXMRA. St. Paul : The Station. Miscellaneous publication - University of Minnesota, Agricultural Experiment Station. 1983. 1983. (2 rev.). p. 146-147. (NAL Call No.: S1.M52).

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0226

**Effects of conservation tillage on corn growth.**

Al-Darby, A.M. Lowery, B. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1984. Paper presented at the 1984 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1984. (fiche no. 84-1033). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

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0228

**Effects of no-tillage and ploughing on roots of maize and leguminous crops.**

Maurya, P.R. Lal, R. Cambridge, Cambridge University Press. Experimental agriculture. Apr 1980. v. 16 (2). p. 185-193. ill. 10 ref. (NAL Call No.: 10 EX72).

0229

**Effects of no tillage and various tillage methods on yields of maize, field beans and pepper grown on a mollisol in southern Puerto Rico.**

JAUPA. Lugo-Mercado, H.M. Badillo-Feliciano, J.; Drtiz-Alvarado, F.H. Mayaguez : University of Puerto Rico, Agricultural Experiment Station. The Journal of agriculture of the University of Puerto Rico. Dct 1984. v. 68 (4). p. 349-354. Includes 15 references. (NAL Call No.: DNAL 8 P832J).

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**Effects of no-tillage fallow as compared to conventional tillage in a wheat-fallow system.**

Fenster, C.R. NE. Peterson, G.A. Lincoln, Neb., The Station. Research bulletin - Agricultural Experiment Station, University of Nebraska. Agricultural Experiment Station. Dct 1979. Dct 1979. (289). 28 p. ill. 12 ref. (NAL Call No.: 100 N27 (3)).

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**Energy consumption in a no-tillage system to produce soybeans.**

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**Equipment wheel spacing availability and adaptions for ridge-planted corn and soybeans.**

Parsons, S.D. Griffith, D.R.; Doster, D.H. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1984. Paper presented at the 1984 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1984. (fiche no. 84-1014). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

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0233

Establishment of alfalfa by conventional and minimum-tillage seeding techniques in a quackgrass (*Agropyron repens*)-dominant sward. Mueller-Warrant, G.W. Koch, D.W. Madison, Wis., American Society of Agronomy. *Agronomy journal*. Nov/Dec 1980. v. 72 (6). p. 884-889. ill. 9 ref. (NAL Call No.: 4 AM34P).

0234

Evaluation of genotype X cropping system interaction of pigeonpeas grown as a sole crop and in association with sorghum.

Knauf, D.A. Beninati, N.F. S.I. : The Society. *Proceedings - Soil and Crop Science Society of Florida*. 1984. v. 43. p. 89-92. Includes 9 references. (NAL Call No.: DNAL 56.9 S032).

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Evaluation of nitrification inhibitors for no-till corn.

Huber, D.M. SOSCA. Warren, H.L.; Nelson, D.W.; Tsai, C.Y.; Ross, M.A.; Mengel, D. Baltimore : Williams & Wilkins. *Soil science*. Dec 1982. v. 134 (6). p. 388-394. 15 ref. (NAL Call No.: 56.8 S03).

0236

The evaluation of warm season perennial grasses with and without interplanted annual grass and legume crops (Forage yields, digestibility, Louisiana).

Montgomery, C.R. Nelson, B.D.; Mason, L.F. Madison : The Department. *Progress report, clovers and special purpose legumes research - Univ. of Wisconsin, Dept. of Agronomy*. 1982. v. 15. p. 24-25. (NAL Call No.: SB193.P72).

0237

Evaluation of yield stability in intercropping: studies on sorghum/pigeonpea.

Rao, M.R. Willey, R.W. Cambridge, Cambridge University Press. *Experimental agriculture*. Apr 1980. v. 16 (2). p. 105-116. ill. Bibliography p. 115-116. (NAL Call No.: 10 EX72).

0238

Fall no-till seeding of alfalfa into tall fescue as influenced by time of seeding and grass and insect suppression.

AGJOAT. Rogers, D.D. Chamblee, D.S.; Mueller, J.P.; Campbell, W.V. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. Jan/Feb 1985. v. 77 (1). p. 150-157. Includes 15 references. (NAL Call No.: DNAL 4 AM34P).

0239

Fallow tillage influence on spring populations of soil nitrifiers, Denitrifiers, and available nitrogen (Conservation tillage, winter wheat, Nebraska).

Broder, M.W. Doran, J.W.; Peterson, G.A.; Fenster, C.R. Madison, Wis. : The Society. *Journal - Soil Science Society of America*. Sept/Oct 1984. v. 48 (5). p. 1060-1067. ill. Includes 29 references. (NAL Call No.: 56.9 S03).

0240

Fighting soil erosion (No-till plantings, field crops, Tennessee).

Mays, G.C. Washington, D.C. : The Administration. *Extension review - United States Department of Agriculture, Science and Education Administration*. Fall 1983. v. 54 (4). p. 38-39. ill. (NAL Call No.: 1 EX892EX).

0241

Forage mixtures for Indiana soils.

Rhykerd, L. Charles. 19--? This publication deals with Indiana's soil types and forage mixtures that grow well on these particular soil regions. Soil drainage, seeding mixtures, seeding rates are specific variables looked at. Mixtures are given that best suit hog production and horse pastures. Tables are included. Document available from: Mailing Room Ag. Administration Bldg., Purdue Univ., West Lafayette, IN. 47907. (NAL Call No.: AY-182).

0242

Forage yield of intercropped corn and soybean in various planting patterns (Includes protein content, Massachusetts).

Herbert, S.J. Putnam, D.H.; Poos-Floyd, M.I.; Vargas, A.; Creighton, J.F. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. July/Aug 1984. v. 76 (4). p. 507-510. ill. Includes references. (NAL Call No.: 4 AM34P).

0243

Full-season no-till beans will work (Soybeans, Ohio, Illinois).

Waukesha, Wis. : No-Till Farmer, Inc. *No-till farmer*. May 1984. v. 12 (5). p. 9. ill. (NAL Call No.: S604.N6).

0244

Grain sorghum response to tillage method used during fallow and to limited irrigation.

AGJOAT. Baumhardt, R.L. Zartman, R.E.; Unger, P.W. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. July/Aug 1985. v. 77 (4). p. 643-646. Includes references. (NAL

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0245

**A growth retardant improves performance of soybeans relay intercropped with winter wheat (Yields).**

Jeffers, D.L. Madison, Wis. : Crop Science Society of America. Crop science. July/Aug 1984. v. 24 (4). p. 695-698. Includes references. (NAL Call No.: 64.8 C883).

0246

**Guidelines.**

Nelson, L. V. Robertson, L. S.; Erdmann, M. H.; Guisenberry, D.; White, R. G. & No till corn: 1. Document available from: Michigan State University, Bulletin Office, P.O. Box 231, East Lansing, Michigan 48824 1976. This publication discusses guidelines for no till corn including soil adaptation, equipment requirements, and control of weeds. 4 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: Extension Bulletin E-904).

0247

**Guidelines for reduced tillage soybeans.**

Jordan, C.W. MS. Starkville, Miss., The Service. Information sheet - Mississippi State University, Cooperative Extension Service. June 1980. June 1980. (1129). 2 p. (NAL Call No.: S544.3.M7M5).

0248

**Herbicide incorporation and reduced tillage (Maize).**

San Francisco, California Farmer Publishing Co. Agrichemical age. Apr 1981. v. 25 (4). p. 26-27. ill. (NAL Call No.: 381 AG85).

0249

**Herbicides for 0-till corn in sod, 1979 (No-tillage, Illinois).**

McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan 1980. (8). p. 49-52. Includes 1 ref. (NAL Call No.: S1.D5).

0250

**Herbicides for 0-till corn in soybean stubble, 1979 (No-tillage systems, Illinois).**

McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan 1980. (8). p. 57-60. Includes 1 ref. (NAL Call No.: S1.D5).

0251

**How to establish alfalfa by no-till (Experiments in Virginia).**

Bryant, H.T. BCPFA. Atlanta : Potash & Phosphate Institute. Better crops with plant food. Summer 1983. v. 67. p. 24-25. (NAL Call No.: 6 B46).

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**Identification and evaluation of soil chemical and physical properties limiting root development in Louisiana soils (Soybeans, wheat, minimum tillage, yields).**

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AGJOAT. Reinertsen, M.R. Cochran, V.L.; Morrow, L.A. Madison, Wis. : American Society of Agronomy. Agronomy journal. Sept/Oct 1984. v. 76 (5). p. 753-756. Includes 24 references. (NAL Call No.: DNAL 4 AM34P).

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**Sod seeding of forages. I. Alternative to conventional establishment.**

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**Soybean row width in a ridge-plant tillage system.**

MXMRA. Randall, G.W. Walters, D.T.; Kelly, P.L. St. Paul : The Station. Miscellaneous publication - University of Minnesota, Agricultural Experiment Station. 1985. (2,rev.). p. 114-116. (NAL Call No.: DNAL S1.M52).

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Schwien, J.D. Willis, W.O.; Grable, A.R. Washington, D.C. : U.S. Department of Agriculture. The Yearbook of agriculture. 1983. 1983. p. 422-429. ill. (NAL Call No.: 1 AG84Y).

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**Stability of soybean harvest index (within cultivars, Drought stress effects, interplant competition, Florida, New York).**

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**Tillage system X planting date interactions in corn production (No-tillage, yield, Ohio).**

Eckert, D.J. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1984. v. 76 (4). p. 580-582. Includes references. (NAL Call No.: 4 AM34P).

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**Strip tillage planting in no-till chemical fallow (Effects of grain yield, eastern Oregon).**

Bolton, F.E. OASPA. Corvallis : The Station. Special report - Agricultural Experiment Station, Oregon State University. June 1983. Report of Columbia Basin agricultural research. June 1983. (680). p. 45-48. (NAL Call No.: 100 OR3M).

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Jeffers, O.L. PPGO. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1982. 1982. (9th). p. 131-136. Includes references. (NAL Call No.: SB128.P5).

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**Use of minimum tillage to produce corn and sorghum silages in permanent sod, 1980.**

Allen, M. Mason, L.; Bracy, R. Franklinton, The Experiment Station. Annual progress report - Southeast Louisiana Dairy and Pasture Experiment Station. 1980. 1980. p. 29-35. (NAL Call No.: S67.E22).

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**Sunflower for strip, row, and relay intercropping (*Helianthus annuus*, *Zea mays*, *Glycine max*, *Brassica hirta*, *Phaseolus vulgaris*, *Secale cereale*, Minnesota).**

Robinson, R.G. AGJOAT. Madison : American Society of Agronomy. Agronomy journal. Jan/Feb 1984. v. 76 (1). p. 43-47. Includes references. (NAL Call No.: 4 AM34P).

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Bracy, R. Mason, L.; Allen, M. Franklinton, La., The Station. Annual progress report - Southeast Louisiana Dairy and Pasture Experiment Station. 1981. 1981. p. 27-31. (NAL Call No.: S67.E22).

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McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan

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Kass, D.C.L. (v.p.) : The Society. Proceedings of the Tropical Region, American Society for Horticultural Science : annual meeting. 1982. v. 25. p. 219-228. Includes references. (NAL Call No.: 81 AM325).

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**Wallowa County no-till spring barley trials 1984.**

OASPA. Karow, R. Dickens, D. Corvallis, Or. : The Station. Special report - Oregon State University, Agricultural Experiment Station. June 1985. (738). p. 35-38. (NAL Call No.: DNAL

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Banks, P.A. GARRA. Kvien, J.S. Athens : The Stations. Research report - University of Georgia, College of Agriculture, Experiment Stations. July 1983. July 1983. (431). 6 p. Includes references. (NAL Call No.: S51.E22).

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Weed control in a winter wheat-corn-ecofarming rotation (Reduced tillage, row spacing, seeding rates, *Triticum aestivum*, *Zea mays*, Nebraska). Vander Vost, P.B. AGJOA. Wicks, Gg.A.; Burnside, O.C. Madison : American Society of Agronomy. Agronomy journal. May/June 1983. v. 75 (3). p. 507-511. ill. Includes references. (NAL Call No.: 4 AM34P).

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With no-till, he drops fertilizer below the seeds (Modified drill operator, wheat production equipment, Oregon).

Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. July 1984. v. 13 (7). p. 8. ill. (NAL Call No.: S604.N6).

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Yield and yield components of four spring barley cultivars under three tillage systems (Minimum tillage).

Ciha, A.J. Madison, Wis., American Society of Agronomy. Agronomy journal. July/Aug 1982. v. 74 (4). p. 597-600. 12 ref. (NAL Call No.: 4 AM34P).

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**(PLANT PRODUCTION - FIELD CROPS)**

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0372

Sod-seeding of ladino clover and alfalfa as influenced by seed placement, seeding date, and grass suppression (*Trifolium repens*, *Medicago sativa*, *Festuca arundinacea*, Pasture renovation, legume establishment, no-tillage). Mueller, J.P. Chamblee, D.S. Madison : American Society of Agronomy. Agronomy journal. Mar/Apr 1984. v. 76 (2). p. 284-289. Includes references. (NAL Call No.: 4 AM34P).

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0387

**Hybrid and irrigation effects on conservation tillage corn in the Coastal Plain.**

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0397

Effect of growth habit of beans of tolerance to competition from maize when intercropped (Genotype X cropping system interaction, harvest index, Colombia).

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0401

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**Soil and water losses as affected by tillage and manure application (Conventional, chisel, and no-till systems, maize).**

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Document available from: Ohio State University, Extension Publication Office, 2120 Fyffe Road, Columbus, Ohio 43210 1983. Presents a valuable reference on information on Ohio's climate, soils, soil conservation, fertilizer and lime use, tillage seed selection and quality, crop variety selection, crop production practices, weed control and herbicides, and many other topics. 99 p. : ill. (NAL Call No.: Document available from source.).(NAL Call No.: Bulletin 472).

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0419

Douglas-fir stem growth per unit of leaf area increased by interplanted Sitka alder and red alder (*Pseudotsuga menziesii*, *Alnus sinuata*, *Alnus rubra*, ratio of leaf area to sapwood area, photosynthesis, British Columbian forests).

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0421

Evaluation of intercropped sugar beets *Beta vulgaris* L. with emphasis on competition for light / by Muammer Ozkan.

Ozkan, Muammer. 1932. 1971. Thesis (Ph.D.)--Montana State University, 1971. Photocopy. Ann Arbor, Mich.: University Microfilms, 1972. xi, 76 leaves ; 21 cm. Bibliography: leaves (73)-76. (NAL Call No.: DISS 71-28,866).

0422

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0424

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**Evaluation of pesticides for improving alfalfa establishment in conventional and no-till sod planting (Damage of pillbugs and slugs).**

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0434

**Invertebrate organisms associated with alfalfa seedling loss in complete-tillage and no-tillage plantings (Slugs, *Agriolimax reticulatus*, *Nemobius* spp. crickets).**

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0437

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Evaluation of pesticides for improving alfalfa establishment in conventional and no-till sod planting (Damage of pillbugs and slugs).

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An evaluation of three early maturing cotton cultivars for production potential and insect damage in reduced- and conventional-tillage systems.

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Harrison, F.P. Bean, R.A.; Qawiyy, O.J. College Park, Md., Entomological Society of America. Journal of economic entomology. June 1980. v. 73 (3). p. 363-365. ill. 2 ref. (NAL Call No.: 421 J822).

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JEENAI. Thorvilson, H.G. Pedigo, L.P.; Lewis, L.C. College Park, Md. : Entomological Society of America. Journal of economic entomology. Feb 1985. v. 78 (1). p. 213-218. Includes references. (NAL Call No.: DNAL 421 J822).

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0475

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Some observations on ecology of the stalk borer (*Papaipema nebris* (Gn.):Noctuidae) in no-tillage corn agroecosystems (Ohio).

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0478

**Southern corn billbug**  
(Coleoptera:Curculionidae) and plant-parasitic nematodes: influence of no-tillage, coulter-in-row-chiseling, and insecticides on severity of damage to corn (*Sphenophorus callosus*, *Hoplolaimus columbus*, *Criconemelia* spp.).

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**1979 insecticide recommendations for conventional and no-tillage field corn.**  
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**Nematode population and community dynamics in soybean-wheat cropping and tillage regimes.**  
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0482

**Southern corn billbug (Coleoptera:Curculionidae) and plant-parasitic nematodes: influence of no-tillage, coulter-in-row-chiseling, and insecticides on severity of damage to corn (Sphenophorus callosus, Hoplolaimus columbus, Criconemelia spp.).**  
All, J.N. Hussey, R.S.; Cummins, D.G. College Park, Md. : Entomological Society of America. *Journal of economic entomology*. Feb 1984. v. 77 (1). p. 178-182. ill. Includes references. (NAL Call No.: 421 J822).

# PLANT DISEASES - GENERAL

0483

**Conservation tillage and corn diseases.**  
White, D.G. Yanney, J. St. Joseph, Mich. (P.O. Box 410), American Society of Agricultural Engineers, 1980. Crop production with conservation in the 80's : proceedings of the American Society of Agricultural Engineers Conference on Crop Production with Conservation in the 80's, December 1-2, 1980, Palmer House, Chicago, Illinois. p. 164-166. 8 ref. (NAL Call No.: S494.5.P75C7).

0484

**Conservation tillage in relation to plant diseases.**  
Boosalis, M.G. Doupenik, B.; Odvody, G.N. Boca Raton, Fla., CRC Press. CRC handbook of pest management in agriculture. 1981. Literature review. v. 1. p. 445-474. 201 ref. (NAL Call No.: SB950.C7).

0485

**Consider plant disease in row crop conservation tillage.**  
Watkins, J.E. FRHQ. Boosalis, M.G.; Doupenik, B.L. Lincoln : The Station. Farm, ranch and home quarterly - Nebraska Agricultural Experiment Station. Spring/Summer 1983. v. 30 (1). p. 14-17. ill. (NAL Call No.: 100 N27N).

0486

**Effects of reduced tillage and multiple cropping on plant diseases.**  
Sumner, D.R. Doupenik, B. Jr.; Boosalis, M.G. Palo Alto, Annual Reviews. Annual review of phytopathology. 1981. Literature review. v. 19. p. 167-187. 111 ref. (NAL Call No.: 464.8 AN72).

0487

**What's the potential of disease incidence of corn in conservation tillage.**  
Nyvall, R.R. Washington, D.C., The Conference. Proceedings of the ... annual corn and sorghum industry research conference - American Seed Trade Association, Corn and Sorghum Division, Corn and Sorghum Research Conference. 1982. Literature review. 1982. (36th). p. 159-175. 63 ref. (NAL Call No.: 59.9 AM32).

# PLANT DISEASES - FUNGAL

0488

**Avocados planted among citrus may help ensure the future.**

Borst, G. Vista, Calif. : Rancher Pub. Avocado grower. Apr 1984. v. 8 (4). p. 19-20. ill. Includes 5 references. (NAL Call No.: DNAL SB379.A9A9).

0489

**Can interplanting citrus control Phytophthora cinnamomi disease? (California avocado).**

Borst, G. Vista, Calif. : Rancher Pub. Avocado grower. Apr 1982. v. 6 (4). p. 27-28. ill. Includes references. (NAL Call No.: SB379.A9A9).

0490

**Control of foliar, pod and stem diseases of no-till soybeans, 1980 (Soybean (*Glycine max* 'Davis'), foliar disease; *Cercospora sojina*, *Septoria glycines*, pod and stem disease; *Glomerella glycines*, *Phomopsis* sp.).**  
Shakes, F.M. Wright, D.L.; Sprenkel, R.K. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 100. (NAL Call No.: 464.9 AM31R).

0491

**Effects of management practices on nematode and fungus populations and cucumber yield (Multiple cropping).**

Johnson, A.W. Sumner, D.R. Ames, Iowa Society of Nematologists. Journal of nematology. Jan 1979. v. 11 (1). p. 84-93. ill. 16 ref. (NAL Call No.: QL391.N4J62).

0492

**Evaluation of deep-chiseled anhydrous ammonia as a control for *Phymatotrichum* root rot of cotton (*Phymatotrichum omnivorum*, soil fumigation, deep chisel plowing).**

Rush, C.M. Lyda, S.D. St. Paul, Minn. : American Phytopathological Society. Plant disease. Apr 1984. v. 68 (4). p. 291-293. Includes references. (NAL Call No.: 1.9 P69P).

0493

**Evaluation of planter box seed treatment fungicides on stand of commercially treated seed in reduce-tillage, double-crop sunflowers, 1982 (Seedling blight and seed rot, *Pythium* spp., *Fusarium* spp., *Helianthus annuus*).**  
Lipps, P.E. FNETD. Herr, L.J. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v. 38. p. 34. (NAL Call No.: 464.9 AM31R).

0494

**Increased take-all of wheat with direct drilling in the Pacific Northwest (*Gaeumannomyces graminis tritici*, conservation tillage, Washington).**

Moore, K.J. Cook, R.U. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Sept 1984. v. 74 (9). p. 1044-1049. ill. Includes 20 references. (NAL Call No.: 464.8 P56).

0495

**Influence of crop rotation and minimum tillage on the population of *Aspergillus flavus* group in peanut field soil (Fungi).**

Griffin, G.J. Garren, K.H.; Taylor, J.D. St. Paul, Minn., American Phytopathological Society. Plant disease. Nov 1981. v. 65 (11). p. 898-900. 14 ref. (NAL Call No.: 1.9 P69P).

0496

**Interplanting: is it worth the headaches? (Citrus and avocados, *Phytophthora cinnamomi*, cultural control).**

Vista, Calif., Rancher Publications. Avocado grower. Nov 1980. v. 4 (11). p. 26-27. ill. (NAL Call No.: SB379.A9A9).

0497

**Interplanting susceptible and resistant radish cultivars reduces colonization by *Plasmodiophora brassicae*.**

Kroll, T.K. Moore, L.D.; Lacy, G.H. Alexandria, Va. : American Society for Horticultural Science. HortScience. June 1984. v. 19 (3, sec.1). p. 403-404. Includes references. (NAL Call No.: SB1.H6).

0498

**New disease found in no-tilled wheat, barley.**  
CRSOA. Madison, Wis. : American Society of Agronomy. Crops and soils magazine. Oct 1984. v. 37 (1). p. 26. ill. (NAL Call No.: DNAL 6 W55).

0499

**Soybean seed and soil fungicide evaluation with no-till and conventional plow-plant systems, 1980 (Soybean (*Glycine max* 'McCurdy ML3'), pre- and postemergence damping-off, various seed and soil-borne organisms).**

Shakes, F.M. Sprenkel, R.K.; Wright, D.L. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 164. (NAL Call No.: 464.9 AM31R).

# MISCELLANEOUS PLANT DISORDERS

0500

**Effect of planting equipment and time of application on injury to no-tillage corn from pendimethalin-triazine mixtures.**

Hartwig, N.L. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. v. 34. p. 68-73. ill. 1 ref. (NAL Call No.: 79.9 N814).

0501

**Identification and evaluation of soil chemical and physical properties limiting root development in Louisiana soils (Soybeans, wheat, minimum tillage, yields).**

Dabney, S.M. Baton Rouge : The Department. Report of projects - Louisiana Agricultural Experiment Station, Department of Agronomy. 1982. 1982. p. 290-299. ill. (NAL Call No.: 100 L936).

0502

**Inhibition of pitted morning glory (*Ipomoea lacunosa* L.) and certain other weed species by phytotoxic components of wheat (*Triticum aestivum* L.) straw (in no-till cropping systems).**

Liebl, R.A. JCECD. Worsham, A.D. New York : Plenum Press. Journal of chemical ecology. Aug 1983. v. 9 (8). p. 1027-1043. ill. Includes references. (NAL Call No.: QD415.A1J6).

0503

**Rye residues contribute weed suppression in no-tillage cropping systems (Agroecosystems, biomass).**

Barnes, J.P. JCECD. Putnam, A.R. New York : Plenum Press. Journal of chemical ecology. Aug 1983. v. 9 (8). p. 1045-1057. ill. Includes references. (NAL Call No.: QD415.A1J6).

0504

**Stability of soybean harvest index (within cultivars, Drought stress effects, interplant competition, Florida, New York).**

Spaeth, S.C. Randall, H.C.; Sinclair, T.R.; Vendeland, J.S. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1984. v. 76 (3). p. 482-486. ill. Includes references. (NAL Call No.: 4 AM34P).

# WEEDS

0505

**A1achlor (lasso) and metolachlor (dual) comparisons in conventional and reduced tillage systems (Weed control in corn).**  
Strek, H.J. Weber, J.B. Auburn, Ala., The Society. Proceedings - Southern Weed Science Society. 1981. 1981. (34th). p. 33-40. ill. Includes 5 ref. (NAL Call No.: 79.9 S08).

0506

**Annual progress report - 1980 / Iowa State University.**

Document available from: Iowa State University, Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011 1980. This publication is a progress report and should not be considered conclusive. The topics covered are soil moisture report, K fertilization for corn and soybeans, sunflower populations, conservation tillage, crop disease trap plots, corn herbicides, spring wheat variety demonstration, musk thistle control, grain sorghum trial, and small grain selection. 17 p. : ill. (NAL Call No.: Document available from source.).(NAL Call No.: ORC 80-10).

0507

**Annual progress report - 1980 : Shelby-Grundy Research Center, Beaconsfield, Iowa / Iowa State University of Science and Technology.** 1981. This publication provides test information on grain sorghum, winter wheat, birdsfoot trefoil, and alfalfa management. Limestone rates and pasture interseeding systems are covered. Document available from: Iowa State Univ., Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011. 14 p. : ill. (NAL Call No.: Not available at NAL.).(NAL Call No.: ORC 80-02).

0508

**Atrazine carryover in soil in a reduced tillage crop production system.**  
Burnside, D.C. Wicks, G.A. Champaign, Ill., Weed Science Society of America. Weed science. Nov 1980. v. 28 (6). p. 661-666. 25 ref. (NAL Call No.: 79.8 W41).

0509

**Atrazine efficacy and longevity as affected by tillage, liming, and fertilizer type (Herbicide residue, under no-tillage and conventional systems in North Carolina).**  
Lowder, S.W. Weber, J.B. Champaign, Ill., Weed Science Society of America. Weed science. May 1982. v. 30 (3). p. 273-280. Includes 25 ref. (NAL Call No.: 79.8 W41).

0510

**Bladex: a solid option for no-till "burndown".** Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Dec 1984. v. 12 (12). p. 6. ill. (NAL Call No.: DNAL S604.N6).

0511

**Breaking ground in minimum-till weed control.** PEAFa. Maeder, M. Raleigh, N.C. : Specialized Agricultural Publications. The peanut farmer. May 1985. v. 21 (5). p. 20. (NAL Call No.: DNAL SB351.A1P3).

0512

**Changing weed problems with conservation tillage.**

Burnside, D.C. St. Joseph, Mich. (P.O. Box 410), American Society of Agricultural Engineers, 1980. Crop production with conservation in the 80's : proceedings of the American Society of Agricultural Engineers Conference on Crop Production with Conservation in the 80's, December 1-2, 1980, Palmer House, Chicago, Illinois. p. 167-174. ill. 12 ref. (NAL Call No.: S494.5.P75C7).

0513

**Chemical weed control in corn : 1981.** Wrage, Leon J. Arnold, W. E. Document available from: South Dakota State University, Ag. Information Bulletin Room, Extension Building, Brookings, South Dakota 57007 1981. This publication contains registered EPA herbicides for corn. Herbicide suggestions, reduced tillage systems furrow and top plant, band vs. broadcast, and irrigated corn are the topics discussed. 8 p. (NAL Call No.: Document available from source.).(NAL Call No.: FS 525C).

0514

**Chemical weed control in small grain and flax: 1981.**

Wrage, Leon J. Arnold, W. E. Document available from: South Dakota State University, Ag. Information Bulletin Room, Extension Building, Brookings, South Dakota 57007 1981. This publication discusses various herbicides for selected grain crops. Oats, winter wheat, rye, durum, hard red spring wheat, barley, flax, special weed problems, and no till small grain are specifically covered. Herbicides included are registered by the EPA. 8 p. : ill. (NAL Call No.: Document available from source.).(NAL Call No.: FS 525A).

(WEEDS)

0515

**Chemical weed control in sorghum : 1981.**  
Wrage, Leon J. Arnold, W. E. Document available from: South Dakota State University, Ag. Information Buleting Room, Extension Building, Brookings, South Dakota 57007 1981. This publication discusses herbicide suggestions, band vs. broadcast application, reduced tillage systems, and sorghum irrigation. The herbicides included have been registered by the EPA. 5 p. (NAL Call No.: Document available from source.).(NAL Call No.: FS 525D).

0516

**Chemical weed control in sorghum: 1985.**  
Wrage, L.J. Arnold, W.E.; Johnson, P.O. Brookings, S.D. : The Service. FS - South Dakota State University, Cooperative Extension Service. Jan 1985. (525D). 11 p. (NAL Call No.: DNAL 275.29 S085FS).

0517

**Combination of three residual herbicides for fall *Panicum (dicotomifolium)* control in no-tillage corn.**  
Parochetti, J.V. Beltsville, Md. Proceedings of the ... annual meetingNortheastern Weed Science Society. 1979. v. 33. p. 4. (NAL Call No.: 79.9 N814).

0518

**Comparison of several non-selective herbicides in reduced tillage systems.**  
Bellinder, R.R.PNWSB. Wilson, H.P. Beltsville : The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. 1983. 1983. (37th). p. 20-26. ill. Includes references. (NAL Call No.: 79.9 N814).

0519

**Competitive control of common lambsquarters (*Chenopodium album*) in a corn-soybean intercrop.**  
Moss, P.A. Hartwig, N.L. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society.Northeastern Weed Science Society. 1980. v. 34. p. 21-28. ill. 12 ref. (NAL Call No.: 79.9 N814).

0520

**Control of broadleaf perennials in a no-tillage trefoil (*Lotus corniculatus*) seeding.**  
Nichols, R.L. Peters, R.A. Beltsville, Md. Proceedings of the ... annual meetingNortheastern Weed Science Society. 1979. v. 33. p. 34-40. ill. 11 ref. (NAL Call No.: 79.9 N814).

0521

**Control of triazine resistant redroot pigweed (*Amaranthus retroflexus*) in conventional and no-tillage corn (Abstract only).**  
Ritter, R.L. Harris, T.C. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society.Northeastern Weed Science Society. p. 41.p. 41. (NAL Call No.: 79.9 N814).

0522

**Control of weeds in an oat (*Avena sativa*)-soybean (*Glycine max*) ecofarming rotation (Herbicides and reduced tillage).**  
Burnside, O.C. Wicks, G.A.; Carlson, D.R. Champaign, Ill., Weed Science Society of America. Weed science. Jan 1980. v. 28 (1). p. 46-50. ill. 15 ref. (NAL Call No.: 79.8 W41).

0523

**Controlling weeds--conservation tillage is no barrier.**  
Kapusta, G. Stovgaard, R.V. Madison, Wis. : American Society of Agronomy. Crops and soils magazine. Apr/May 1984. v. 36 (7). p. 16-17. ill. (NAL Call No.: 6 W55).

0524

**Conventional and no-till establishment of ladino clover as influenced by time of seeding and insect and grass suppression.**  
AGUDAT. Rogers, D.D. Chamblee, D.S.; Mueller, J.P.; Campbell, W.V. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1985. v. 77 (4). p. 531-538. Includes 15 references. (NAL Call No.: DNAL 4 AM34P).

0525

**Early preplant herbicide applications for no-till soybean (*Glycine max*) weed control.**  
Stougaard, R.N. Kapusta, G.; Roskamp, G. Champaign, Ill. : Weed Science Society of America. Weed science. May 1984. v. 32 (3). p. 293-298. Includes references. (NAL Call No.: 79.8 W41).

0526

**An economic assessment of zero tillage (feasibility of using herbicides) in wheat-fallow rotations in southern Alberta.**  
Zentner, R.P. Lindwall, C.W. Ottawa, Information Services, Agriculture Canada. Canadian farm economics. Dec 1978. v. 13 (6). p. 1-6. ill. 13 ref. (NAL Call No.: HD1401.C2).

0527

**Effect of no-till systems on weed control and yields of continuous winter wheat (*Triticum aestivum*).**

Cleary, C.L. WEESA. Peepers, T.F. Champaign : Weed Science Society of America. Weed science. Nov 1983. v. 31 (6). p. 813-818. Includes references. (NAL Call No.: 79.8 W41).

0528

**The effect of soil pH on the activity of oryzalin and metribuzin on five common weeds in no-till crop production (Greenhouse study).**

Robinson, E.L. CSOSA. New York : Marcel Dekker. Communications in soil science and plant analysis. 1982. v. 13 (11). p. 987-994. 16 ref. (NAL Call No.: S590.C63).

0529

**Effect of three weed control regimes on no-till and tilled soybeans (*Glycine max*) (Conservation tillage, compacted soil).**

Robinson, E.L. WEESA6. Langdale, G.W.; Stuedemann, J.A. Champaign : Weed Science Society of America. Weed science. Jan 1984. v. 32 (1). p. 17-19. Includes references. (NAL Call No.: 79.8 W41).

0530

**Effect of timing and herbicides on the no-tillage establishment of red clover, alfalfa, and birdsfoot trefoil.**

Nichols, R.L. Peters, R.A. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. Abstract only. v. 34. p. 91. (NAL Call No.: 79.9 N814).

0531

**Effects of no-tillage and herbicides on carrot and onion seed production.**

Campbell, W.F. Anderson, J.L. Alexandria, Va., American Society for Horticultural Science. HortScience. Oct 1980. v. 15 (5). p. 662-664. 111. 6 ref. (NAL Call No.: SB1.H6).

0532

**Establishing soybeans in a no-tillage double-crop system with several herbicide combinations (Abstract only).**

Chitapong, P. Ilnicki, R.D.; Horng, L.C. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 47. p. 47. (NAL Call No.: 79.9 N814).

0533

**Establishment of alfalfa by conventional and minimum-tillage seeding techniques in a quackgrass (*Agropyron repens*)-dominant sward.**

Mueller-Warrant, G.W. Koch, D.W. Madison, Wis., American Society of Agronomy. Agronomy journal. Nov/Dec 1980. v. 72 (6). p. 884-889. 111. 9 ref. (NAL Call No.: 4 AM34P).

0534

**Evaluation of a sprayer equipped combine for application of herbicides during harvest (Conservation tillage).**

Downs, H.W. Gerling, J.F.; Fain, D. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-1504). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

0535

**Evaluation of herbicide treatments for no-till snap bean production.**

Mullins, C.A. Geneva, N.Y. : Bean Improvement Cooperative. Annual report of the Bean Improvement Cooperative. Mar 1985. v. 28. p. 111-113. (NAL Call No.: DNAL SB327.A1B5).

0536

**Evaluation of no-till demonstrations (Reduced tillage, weed control).**

Stiegler, J. Stillwater : The Service. OSU current report - Oklahoma State University, Cooperative Extension Service. Apr 1983. Apr 1983. (2900). 2 p. (NAL Call No.: S451.0508).

0537

**Exudation of glyphosate from wheat (*Triticum aestivum*) plants and its effects on interplanted corn (*Zea mays*) and soybeans (*Glycine max*) (Growth regulator, herbicide uptake, no-tillage).**

Rodrigues, J.J.V. Worsham, A.D.; Corbin, F.T. Champaign, Ill., Weed Science Society of America. Weed science. May 1982. v. 30 (3). p. 316-320. Includes 22 ref. (NAL Call No.: 79.8 W41).

(WEEDS)

0538

Fall and spring herbicide treatment for minimum-tillage seeding of alfalfa (*Medicago sativa*) (*Agropyron repens*, glyphosate, paraquat, pronamide).  
Mueller-Warrant, G.W. WEESA. Koch, D.W. Champaign : Weed Science Society of America. Weed science. May 1983. v. 31 (3). p. 391-395. Includes references. (NAL Call No.: 79.8 W41).

0539

Fall no-till seeding of alfalfa into tall fescue as influenced by time of seeding and grass and insect suppression.

AGJOAT. Rogers, D.D. Chamblee, D.S.; Mueller, J.P.; Campbell, W.V. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1985. v. 77 (1). p. 150-157. Includes 15 references. (NAL Call No.: DNAL 4 AM34P).

0540

Fall panicum competition in conventional and no-till corn (*Panicum dichotomiflorum*, abstract only).

Crane, S. Ilnicki, R.D. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 22.p. 22. (NAL Call No.: 79.9 N814).

0541

Favorite no-till weed "recipes".

Lessiter, Frank. Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Dec 1984. v. 12 (12). p. 5. ill. (NAL Call No.: DNAL S604.N6).

0542

Field results with oryzalin applied overtop of growing wheat for weed control in no-till soybeans (Herbicide).

Burnside, K.R. PNWSB. Rivera, C.M.; Schumann, F.W. Beltsville : The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. 1983. 1983. (37th). p. 33-38. Includes references. (NAL Call No.: 79.9 N814).

0543

Fit herbicide needs to your own program (Weed control in no-till soybeans).

Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. May 1984. v. 12 (5). p. 10. ill. (NAL Call No.: S604.N6).

0544

Forget foxtail--ridge-planting can help keep this weed out of beans for good.

Thompson, D. Thompson, S. Emmaus, Pa. : Regenerative Agriculture Association. The New farm. July/Aug 1984. v. 6 (5). p. 18-20. ill. (NAL Call No.: S1.N32).

0545

Future needs in weed science.

WEESA6. McWhorter, C.G. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1984. v. 32 (6). p. 850-855. Includes 42 references. (NAL Call No.: DNAL 79.8 W41).

0546

Get the most from incorporation tools.

Marking, S. St. Louis, Mo. : American Soybean Association. Soybean digest. Dec 1984. v. 45 (2). p. 57. ill. (NAL Call No.: DNAL 60.38 S09).

0547

Glyphosate and/or quackgrass effect on no-tillage alfalfa seeding in quackgrass sod (*Agropyron repens*).

Cardina, J. PNWSB. Hartwig, N.L. Beltsville : The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. 1983. 1983. (37th). p. 63-67. Includes references. (NAL Call No.: 79.9 N814).

0548

Guidelines.

Nelson, L. V. Robertson, L. S.; Erdmann, M. H.; Guisenberry, D.; White, R. G. & No till corn: 1. Document available from: Michigan State University, Bulletin Office, P.O. Box 231, East Lansing, Michigan 48824 1976. This publication discusses guidelines for no till corn including soil adaptation, equipment requirements, and control of weeds. 4 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: Extension Bulletin E-904).

0549

Herbicide effectiveness and weed populations in no-tillage corn.

Rieck, C.E. Minneapolis, Minn. : Published for the Congress by Burgess Pub., c1981. Proceedings of symposia : IX International Congress of Plant Protection, Washington, D.C., U.S.A., August 5-11, 1979 / editor, Thor Kommedahl. p. 65-66. (NAL Call No.: SB951.I5 1979).

0550

**Herbicide programs and tillage systems for cabbage.**

PNWSB. Bellinder, R.R. Hines, T.E.; Wilson, H.P. Beltsville, Md. : The Society. Proceedings of the ... annual meeting - Northeastern Weed Science Society. Jan 1984. v. 38. p. 191-194. Includes 8 references. (NAL Call No.: DNAL 79.9 N814).

0551

**Herbicides for grass control in no-till planted soybeans.**

MAEBB. Johnson, J.R. Arnold, B.L.; Hurst, H.R. Mississippi State, Miss. : The Station. Bulletin - Mississippi Agricultural & Forestry Experiment Station. Feb 1985. (936). 5 p. Includes 2 references. (NAL Call No.: DNAL S79.E3).

0552

**Herbicides for sod-seeding establishment of alfalfa (*Medicago sativa*) in quackgrass (*Agropyron repens*)-infested alfalfa swards.**

WEESA6. Leroux, G.D. Harvey R.G. Champaign, Ill. : Weed Science Society of America. Weed science. Mar 1985. v. 33 (2). p. 222-228. Includes 24 references. (NAL Call No.: DNAL 79.8 W41).

0553

**Herbicides for 0 (zero)-till corn in (*Festuca arundinacea*) sod, 1978.**

McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC.Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 37-41. ill. 1 ref. (NAL Call No.: S1.D5).

0554

**Herbicides for 0 (zero)-till corn in soybean stubble, 1978.**

McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC.Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 54-57. ill. 1 ref. (NAL Call No.: S1.D5).

0555

**Herbicides in no-tillage systems involving wheat.**

TAEMA. Wiese, A.F. Lavake, D.E. College Station, Tex. : The Station. Miscellaneous publication MP - Texas Agricultural Experiment Station. May 1984. (1547). 17 p. Includes references. (NAL Call No.: DNAL 100 T31M).

0556

**Herbicide performance in no-tillage legume establishment in grain stubble (Alfalfa, red clover).**

Vaughan, R.H. PNWSB. Linscott, D.L. Beltsville : The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. 1983. 1983. (37th). p. 68-72. Includes references. (NAL Call No.: 79.9 N814).

0557

**Impact of carbofuran treatment on no-tillage alfalfa establishment (Abstract only).**

Peters, R.A. Zaprzalka, J. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 76.p. 76. (NAL Call No.: 79.9 N814).

0558

Influence of flowering weeds associated with reduced tillage in corn on a black cutworm (Lepidoptera:Noctuidae) parasitoid, *Meteorus rubens* (Nees von Esenbeck) (*Agrotis ipsilon*). Foster, M.A. Ruesink, W.G. College Park, Md. : Entomological Society of America. Environmental entomology. June 1984. v. 13 (3). p. 664-668. Includes references. (NAL Call No.: QL461.E532).

0559

**Influence of nitrogen and corn population on no-tillage corn yield with and without crownvetch (*Coronilla varia*).**

Cardina, J. Hartwig, N.L. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 27-31. ill. 5 ref. (NAL Call No.: 79.9 N814).

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WEESA6. Glaze, N.C. Dowler, C.C.; Johnson, A.W.; Sumner, D.R. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1984. v. 32 (6). p. 762-767. Includes 10 references. (NAL Call No.: DNAL 79.8 W41).

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**Inhibition of pitted morning glory (*Ipomoea lacunosa* L.) and certain other weed species by phytotoxic components of wheat (*Triticum aestivum* L.) straw (in no-till cropping systems).**

Lieb, R.A. JCECD. Worsham, A.D. New York : Plenum Press. Journal of chemical ecology. Aug 1983. v. 9 (8). p. 1027-1043. ill. Includes

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Schieferstein, R.H. Champaign, Ill.. Weeds Today, Inc. Weeds today. Spring 1980. v. 11 (1). p. 11-12. ill. (NAL Call No.: SB610.W4).

0563

**Insect and weed control in no-till alfalfa establishment.**

Faix, J.J. IL. Kaiser, C.J.; Farris, M.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan 1980. (8). p. 34-38. 7 ref. (NAL Call No.: S1.D5).

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Ghadiri, H. WEESA6. Shea, P.J.; Wicks, G.A. Champaign : Weed Science Society of America. Weed science. Jan 1984. v. 32 (1). p. 24-27. ill. Includes references. (NAL Call No.: 79.8 W41).

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Fornstrom, K.J. Alley, H.; Jackson, G.; McNamee, M.A. Laramie, The Station. Research journal - Wyoming Agricultural Experiment Station. Jan 1981. Jan 1981. (162). p. 41-45. (NAL Call No.: S131.E22).

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Parochetti, J.V. EX. Harris, T.C. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. v. 34. p. 59-67. ill. 3 ref. (NAL Call No.: 79.9 N814).

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Memphis, Tenn., Little Publications, Inc. Custom applicator. Apr 1982. v. 12 (4). p. 14-16. ill. (NAL Call No.: S671.C8).

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**No-till chemical management--still a tricky task (weed control).**

Mar 1978. v. 93 (3). Progressive farmer for the West. Mar 1978. v. 93 (3). p. 32-33. ill. (NAL Call No.: 6 T311).

0571

**Non-informed against no-till herbicides (Paraquat, Gramoxone, Marijuana, illegal crops, toxic residues).**

Lessiter, F. Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Oct 1984. v. 13 (10). p. 4-5. (NAL Call No.: S604.N6).

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**Postemergence Johnsongrass control in no-tillage soybeans (Sorghum halepense, herbicides).**

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**Potential injury from late herbicide applications in no-tillage corn (Paraquat, abstract only).**

Harris, T.C. Ritter, R.L. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 35.p. 35. (NAL Call No.: 79.9 N814).

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Wilson, H.P. Hines, T.E. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 51.p. 51. (NAL Call No.: 79.9 N814).

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**Quackgrass (*Agropyron repens*) control for minimum tillage establishment of birdsfoot trefoil.**

Koch, D.W. Mueller-Warrant, G.W. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. v. 34. p. 92-93. ill. (NAL Call No.: 79.9 N814).

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Mangold, G. St. Louis, Mo., American Soybean Association. Soybean digest. Feb 1981. v. 41 (4). p. 10-11. ill. (NAL Call No.: 60.38 S09).

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**Reduced-tillage systems--past, present, future (for weed control).**

Witt, W.W. Herron, J.W. Champaign, Ill., Weeds Today, Inc. Weeds today. Spring 1980. v. 11 (1). p. 9-10. ill. (NAL Call No.: SB610.W4).

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**Reduced tillage systems for Montana (Small grain production, includes herbicides and pesticides application guidelines).**

Rardon, P. Bozeman : The Service. Bulletin - Cooperative Extension Service. Montana State University. Mar 1983. Mar 1983. (1286). 28 p. ill. (NAL Call No.: 275.29 M76C).

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AGENA. Hummel, J.W. Wax, L.M.; Siemens, J.C. St. Joseph, Mich. : American Society of Agricultural Engineers. Agricultural engineering. Sept 1985. v. 66 (9). p. 18-19. ill. (NAL Call No.: DNAL 58.8 AG83).

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Witt, W.W. Herron, J.W. Champaign, Ill., Weeds Today, Inc. Weeds today. Early spring 1980. v. 11 (1). p. 9-10. ill. (NAL Call No.: SB610.W4).

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**Reduced tillage weed control across Iowa (Includes herbicides evaluation).**

Vincent, G.B. Jennings, V.M. Champaign, Ill., The Conference. Proceedings ... annual meeting. North Central Weed Control Conference. 1978. v. 33. p. 91-93. ill. (NAL Call No.: 79.9 N81).

0582

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AGJOAT. Reinertsen, M.R. Cochran, V.L.; Morrow, L.A. Madison, Wis. : American Society of Agronomy. Agronomy journal. Sept/Oct 1984. v. 76 (5). p. 753-756. Includes 24 references. (NAL Call No.: DNAL 4 AM34P).

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PNWSB. DeGregorio, R.E. Ashley, R.A. Beltsville, Md. : The Society. Proceedings of the ... annual meeting - Northeastern Weed Science Society. 1985. v. 39. p. 80-84. Includes 8 references. (NAL Call No.: DNAL 79.9 N814).

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AGJOAT. Somody, C.N. Nalewaja, J.D.; Miller, S.D. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1985. v. 77 (3). p. 359-362. ill. Includes 5 references. (NAL Call No.: DNAL 4 AM34P).

0585

**Slick tricks for killing off alfalfa (Before no-tilling corn into sod, herbicides).**

Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Aug 1984. v. 13 (8). p. 8. ill. (NAL Call No.: S604.N6).

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Mitchell, J.R. Durham : The Station. Bulletin -  
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without burying residues.**  
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Khalifa, M.A. WEESA. Wittmuss, H.D.; Burnside,  
O.D. Champaign : Weed Science Society of  
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Dietz, W.P. Jennings, V.M. Champaign, Ill., The  
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Northeastern Weed Science Society. Northeastern  
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**Sweep incorporation of herbicides under crop  
residues for conservation tillage (for dryland  
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Morrison, J.E. Jr. Merkle, M.G.; Gerik, T.J.;  
Weaver, D.N. St. Joseph, Mich. (P.O. Box 410),  
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Lessiter, F. Waukesha, Wis. : No-Till Farmer,  
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**Weed control challenges with conservation  
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**Weed-control evaluations in no-till soybeans (Glycine max) double-cropped with rye (Secale cereale) (Georgia).**

Banks, P.A.GARRA. Kvien, J.S. Athens : The Stations. Research report - University of Georgia, College of Agriculture, Experiment Stations. July 1983. July 1983. (431). 6 p. Includes references. (NAL Call No.: S51.E22).

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**Weed control for corn and soybeans in reduced tillage systems.**

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**Weed control for no-till renovation of runout alfalfa.**

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**Weed control in a winter wheat-corn-ecofarming rotation (Reduced tillage, row spacing, seeding rates, Triticum aestivum, Zea mays, Nebraska).**

Vander Vost, P.B. AGJOA. Wicks, Gg.A.; Burnside, O.C. Madison : American Society of Agronomy. Agronomy journal. May/June 1983. v. 75 (3). p. 507-511. ill. Includes references. (NAL Call No.: 4 AM34P).

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Crane, S. Sollazzo, P.J.; Ilnicki, R.D. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 48-50. p. 48-50. (NAL Call No.: 79.9 N814).

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**Weed control in multiple grain rotations with minimum tillage in semiarid climates.**

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WEESAG. Colvin, D.L. Wehtje, G.R.; Patterson, M.; Walker, R.H. Champaign, Ill. : Weed Science Society of America. Weed science. Mar. 1985. v. 33 (2). p. 233-237. Includes 14 references. (NAL Call No.: DNAL 79.8 W41).

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Stobbe, E.H. Champaign, Ill., The Conference. Proceedings ... annual meeting. North Central Weed Control Conference. 1978. v. 33. p. 29-30. (NAL Call No.: 79.9 N81).

0612

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Ehmke, V. St. Louis, Mo., American Soybean Association. Soybean digest. Apr 1981. v. 41 (6). p. 26-27. ill. (NAL Call No.: 60.38 S09).

0613

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Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Apr 1984. Apr 1984. p. 12. ill. (NAL Call No.: S604.N6).

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Mitich, L.W. Sacramento : California Weed Conference Office. Proceedings - California Weed Conference. 1981. 1981. (33rd). p. 50-53. 7 ref. (NAL Call No.: 79.9 C122).

0615

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0616

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# PESTICIDES - GENERAL

0617

**Alachlor (lasso) and metolachlor (dual) comparisons in conventional and reduced tillage systems (Weed control in corn).**

Strek, H.J. Weber, J.B. Auburn, Ala., The Society. Proceedings - Southern Weed Science Society. 1981. 1981. (34th). p. 33-40. ill. Includes 5 ref. (NAL Call No.: 79.9 S08).

0618

**Analysis of variables affecting straw penetration for flat-fan nozzles (Herbicide application in no-till cropping systems).**  
Gerling, J.F. Solie, J.B. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1984. Paper presented at the 1984 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1984. (fiche no. 84-1003). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

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**Atrazine dissipation in conventional-till and no-till sorghum (Pesticide degradation, soil cultivation, Nebraska).**  
Ghadiri, H. Shea, P.J.; Wicks, G.A.; Haderlie, L.C. Madison, Wis. : American Society of Agronomy. Journal of environmental quality. Oct/Dec 1984. v. 13 (4). p. 549-552. ill. Includes 28 references. (NAL Call No.: QH540.J6).

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Wrage, Leon J. Arnold, W. E. Document available from: South Dakota State University, Ag. Information Bulletin Room, Extension Building, Brookings, South Dakota 57007 1981. This publication contains registered EPA herbicides for corn. Herbicide suggestions, reduced tillage systems furrow and top plant, band vs. broadcast, and irrigated corn are the topics discussed. 8 p. (NAL Call No.: Document available from source.).(NAL Call No.: FS 525C).

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**Chemical weed control in sorghum : 1981.**  
Wrage, Leon J. Arnold, W. E. Document available from: South Dakota State University, Ag. Information Buleting Room, Extension Building, Brookings, South Dakota 57007 1981. This publication discusses herbicide suggestions, band vs. broadcast application, reduced tillage systems, and sorghum irrigation. The herbicides

included have been registered by the EPA. 5 p. (NAL Call No.: Document available from source.).(NAL Call No.: FS 525D).

0622

**Crop chemical delivery systems for the '80s--and beyond.**

AGENA. Lundein, R.W. St. Joseph, Mich. : American Society of Agricultural Engineers. Agricultural engineering. Oct 1985. v. 66 (10). p. 13-15. (NAL Call No.: DNAL 58.8 AG83).

0623

**Cyanazine losses in runoff from no-tillage corn in "living" and dead mulches vs. unmulched, conventional tillage (Herbicide, Zea mays).**  
Hall, J.K. JEVQAA. Hartwig, N.L.; Hoffman, L.D. Madison : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1984. v. 13 (1). p. 105-110. Includes references. (NAL Call No.: QH540.J6).

0624

**Effect of planting equipment and time of application on injury to no-tillage corn from pendimethalin-triazine mixtures.**

Hartwig, N.L. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. v. 34. p. 68-73. ill. 1 ref. (NAL Call No.: 79.9 N814).

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**Effect of spray/planting intervals and various grass sods on no-till establishment of alfalfa.**  
AGUDAT. Eltun, R. Wakefield, R.C.; Sullivan, W.M. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1985. v. 77 (1). p. 5-8. Includes 17 references. (NAL Call No.: DNAL 4 AM34P).

0626

**Fall, spring spraying works with sod (Atrazine, paraquat, no-till maize).**

Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Oct 1984. v. 13 (10). p. 8. ill. (NAL Call No.: S604.N6).

0627

**Herbicide incorporation and reduced tillage (Maize).**

San Francisco, California Farmer Publishing Co. Agrichemical age. Apr 1981. v. 25 (4). p. 26-27. ill. (NAL Call No.: 381 AG85).

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0628

**Herbicides for 0-till corn in sod, 1979 (No-tillage, Illinois).**  
McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan 1980. (8). p. 49-52. Includes 1 ref. (NAL Call No.: S1.D5).

0629

**Herbicides for 0-till corn in soybean stubble, 1979 (No-tillage systems, Illinois).**  
McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan 1980. (8). p. 57-60. Includes 1 ref. (NAL Call No.: S1.D5).

0630

**The influence of straw mulch on the soil reception and persistence of metribuzin (Herbicide, in a no-till soybean system).**  
Banks, P.A. Robinson, E.L. Champaign, Ill., Weed Science Society of America. Weed science. Mar 1982. v. 30 (2). p. 164-168. ill. Includes 9 ref. (NAL Call No.: 79.8 W41).

0631

**Narrow row soybean production in untilled oat stubble.**  
AGJOAT. Burnside, D.C. Moomaw, R.S. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1985. v. 77 (1). p. 36-40. Includes 11 references. (NAL Call No.: DNAL 4 AM34P).

0632

**Non-informed against no-till herbicides (Paraquat, Gramoxone, Marijuana, illegal crops, toxic residues).**  
Lessiter, F. Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Oct 1984. v. 13 (10). p. 4-5. (NAL Call No.: S604.N6).

0633

**Overview of pest management in conservation tillage.**  
Frisbie, R.E. Knake, E.L.; Reichelderfer, K. Ames, Iowa : Iowa State University Press, 1984. Future agricultural technology and resource conservation : proceedings, RCA Symposium, Future Agricultural Technology and Resource Conservation, held Dec. 5-9, 1982, Washington, D.C. / edited by B.C. English ... (et al.). p. 421-440. ill. Includes 2 p. references. (NAL Call No.: S441.R2 1982A).

0634

**Pesticide use and practices, 1982.**  
Duffy, M. Washington : The Department. Extract: Pesticide use varies considerably by crop, according to the Economic Research Service's 1982 Crop and Livestock Pesticide Usage Survey. Eleven percent of farmers who responded used professional scouting for pest problems, 59 percent self scouted their fields, and 12 percent were aware of beneficial insects and diseases. The extent of no- or reduced-till systems varied by crop. Almost 70 percent of the farmers with livestock used insecticides for livestock insect control. A majority of the respondents used common pesticide application safety equipment and 15 percent used specialized safety equipment. Agriculture information bulletin - U.S. Dept. of Agriculture. Dec 1983. Predominantly tables. Dec 1983. (462). 14 p. (NAL Call No.: 1 AG84AB).

0635

**Triazine (herbicide) persistence in soil in eastern Ohio (under conventional and no-till managements of maize).**  
Nearpass, D.C. Edwards, W.M. Madison. Agronomy journal American Society of Agronomy. Nov/Dec 1978. v. 70 (6). p. 937-940. ill. 12 ref. (NAL Call No.: 4 AM34P).

# SOIL SCIENCE

0636

**Saving Buena Vista County soil with  
conservation tillage & terraces.**

Buena Vista County Soil Conservation District.  
Lincoln U.S.D.A., Soil Conservation Service  
1979. (9) p. : ill., maps (some col.). (NAL  
Call No.: aS627.T4B9).

# SOIL BIOLOGY

0637

**Aerobic and anaerobic microbial populations in no-till and plowed soils.**

Linn, D.M. Doran, J.W. Madison, Wis. : The Society. Journal - Soil Science Society of America. July/Aug 1984. v. 48 (4). p. 794-799. Includes 14 references. (NAL Call No.: 56.9 S03).

0638

**Atrazine carryover in soil in a reduced tillage crop production system.**

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**Gaseous nitrogen losses from soils under zero-till as compared with conventional-till management systems (Denitrification, nitrification).**

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# SOIL CHEMISTRY AND PHYSICS

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Document available from: Iowa State University, Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011 1980. This publication is a progress report and should not be considered conclusive. The topics covered are soil moisture report, K fertilization for corn and soybeans, sunflower populations, conservation tillage, crop disease trap plots, corn herbicides, spring wheat variety demonstration, musk thistle control, grain sorghum trial, and small grain selection. 17 p. : ill. (NAL Call No.: Document available from source.).(NAL Call No.: ORC 80-10).

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## Assessing the physical condition of a Piedmont soil under long term conventional and no-tillage (Georgia).

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0655

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**No-till corn in living forage sod: hay, corn, and grass in one year.**

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# SOIL CLASSIFICATION AND GENESIS

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Casper, H.R. Washington, The Service. Extract: Soil taxonomy provides the method and precision to group soils according to the likely effects on crop yields of reduced tillage and no till practices. The use of taxonomy for this purpose is discussed and illustrated, including its advantages over the Capability Classification System. ESCS staff report - U.S. Dept. of Agriculture, Economics, Statistics, and Cooperatives Service. Mar 1979. Mar 1979. 35 p.. maps. Includes ref. (NAL Call No.: 916762(AGE)).

# SOIL SURVEYING AND MAPPING

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Soil survey of Dunn County, North Dakota / by  
M. Robert Wright, Jerome Schaar, and Steven J.  
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Wright, M. Robert. Schaar, Jerome.; Tillotson,  
Steven J. (Washington, D.C.) The Service  
(1982). Issued April 1982 ~Includes glossary  
and index to map sheets. ix, 235 p., (163)  
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Document available from: Iowa State University, Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011 1980. This publication is a progress report and should not be considered conclusive. The topics covered are soil moisture report, K fertilization for corn and soybeans, sunflower populations, conservation tillage, crop disease trap plots, corn herbicides, spring wheat variety demonstration, musk thistle control, grain sorghum trial, and small grain selection. 17 p. : ill. (NAL Call No.: Document available from source.).(NAL Call No.: ORC 80-10).

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**Availability of  $^{15}\text{N}$  (nitrogen isotope)-labeled nitrogen in fertilizer and in wheat straw to wheat in tilled and no-till soil (Denitrification).**

Fredrickson, J.K. SSSJD. Koehler, F.E.; Cheng, H.H. Madison : The Society. Journal - Soil Science Society of America. Nov/Dec 1982. v. 46 (6). p. 1218-1222. 28 ref. (NAL Call No.: 56.9 S03).

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**Beneficial inhabitants of the soil (Reduced tillage, fertilizer residues).**

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**Economics of winter cover crops as a source of nitrogen for no-till corn.**

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246-249. Includes 11 references. (NAL Call No.: DNAL 56.8 J822).

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**Fertilizer response in 1984: no-till annual cropping of small grains.**  
OASPA. Ramig, R.E. Ekin, L.G. Corvallis, Or. : The Station. Special report - Oregon State University, Agricultural Experiment Station. June 1985. (738). p. 27-32. (NAL Call No.: DNAL 100 OR3M).

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**Fertilizing conservation and no-tillage grain production systems.**  
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0699

**Measurement of available soil phosphorus under conventional and no-till management (Conservation tillage).**  
Kunishi, H.M. Bandel, V.A.; Mulford, F.R. New York, N.Y., Marcel Dekker. Communications in soil science and plant analysis. 1982. v. 13 (8). p. 607-618. 14 ref. (NAL Call No.: S590.C63).

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0703

**Nitrification of fertilizer and mineralized ammonium in no-till and plowed soil.**

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**Nitrogen behavoir in reduced tillage systems.**  
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0705

**Nitrogen efficiency as affected by ridge-planting (Conservation tillage, fertilization practices, corn, Minnesota).**  
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0706

**Nitrogen fertilization requirements for no-tillage and minimum tillage wheat.**

Schneider, R.P. Johnson, B.E. Fargo, N.D., The Station. North Dakota farm research. North Dakota. Agricultural Experiment Station. Nov/Dec 1979. v. 37 (3). p. 22-24. ill. 9 ref. (NAL Call No.: 100 N813B).

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0707

**Nitrogen requirements associated with improved conservation tillage for corn production.**  
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**Nitrogen source and rate effects on soil pH (hydrogen-ion concentration) corn yields and nitrogen uptake in reduced tillage systems.**  
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0710

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**Optimum K fertilization schedule for maximizing yields of cabbage, sweetcorn, and soybeans grown in a multiple cropping sequence.**  
Forbes, R.B. Sartain, J.B.; Usherwood, N.R. S.I. : The Society. Proceedings - Soil and Crop Science Society of Florida. 1984. v. 43. p. 64-68. Includes 15 references. (NAL Call No.: DNAL 56.9 S032).

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**Placement of nitrogen fertilizers for no-till and conventional till corn.**  
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0713

**Plowing effect on corn yield response to N (nitrogen) following alfalfa (compared with no-tillage).**  
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**Reduced tillage corn yields and available phosphorus equal conventional planting (Distributing fertilizer throughout the topsoil, controlling weeds, and establishing a seedbed).**  
Hall, J.K. Hoffman, L.D.; Hartwig, N.L. University Park, Pa., The Station. Science in agriculture - Pennsylvania Agricultural Experiment Station. Summer 1981. v. 28 (4). p. 4. ill. (NAL Call No.: 100 P381S).

0715

**Response of spring wheat to N fertilizer placement, row spacing, and wild oat herbicides in a no-till system.**  
AGUOAT. Reinertsen, M.R. Cochran, V.L.; Morrow, L.A. Madison, Wis. : American Society of Agronomy. Agronomy journal. Sept/Oct 1984. v. 76 (5). p. 753-756. Includes 24 references. (NAL Call No.: DNAL 4 AM34P).

0716

**Role of legume cover crops in conservation tillage production systems (Soil erosion, nitrogen supply, crimson clover, *Trifolium incarnatum*, sorghum, *Sorghum bicolor*).**  
Hargrove, W.L. Langdale, G.W.; Thomas, A.W. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1984. Paper presented at the 1984 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1984. (fiche no. 84-2038). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

0717

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JSWCA3. Wendt, R.C. Burwell, R.E. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Sept/Oct 1985. v. 40 (5). p. 450-454. Includes 14 references. (NAL Call No.: DNAL 56.8 J822).

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0718

"Shoot" fertilizer through your stubble (High-pressure liquid fertilizer applicators, no-tillage).

Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Aug 1984. v. 13 (8). p. 6. ill. (NAL Call No.: S604.N6).

Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-1020). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

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Short-term immobilization of fertilizer nitrogen at the surface of no-till and plowed soils.

Rice, C.W. Smith, M.S. Madison, Wis. : The Society. Journal - Soil Science Society of America. Mar/Apr 1984. v. 48 (2). p. 295-297. Includes references. (NAL Call No.: 56.9 S03).

0724

Surface application of urea and ammonium nitrate treated with N-Serve 24 nitrogen stabilizer for no-tillage corn.

Frye, W.W. Blevins, R.L.; Murdock, L.W.; Wells, K.L.; Ellis, J.H. Midland, Mich., Agricultural Products Dept., Dow Chemical Co. Down to earth. Summer 1980. v. 36 (3). p. 26-28. 10 ref. (NAL Call No.: 381 D75).

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Soil and water losses as affected by tillage and manure application (Conventional, chisel, and no-till systems, maize).

Mueller, D.H. Wendt, R.C.; Daniel, T.C. Madison, Wis. : The Society. Journal - Soil Science Society of America. July/Aug 1984. v. 48 (4). p. 896-900. Includes 26 references. (NAL Call No.: 56.9 S03).

0725

Tailoring fertilizer placement (in no-till soil).

Hardin, B. AGRE. Washington, D.C. : The Administration. Agricultural research - U.S. Department of Agriculture, Agricultural Research Service. May 1983. v. 31 (11). p. 12. ill. (NAL Call No.: 1.98 AG84).

0721

Soil biology and biochemical nitrogen transformations in no-tilled soils.

Smith, M.S. Rice, C.W. New York : Praeger, 1983. Environmentally sound agriculture : selected papers, 4th conference, International Federation of Organic Agriculture Movements, Cambridge, Mass., August 18-20, 1982 / edited by William Lockeretz. p. 215-226. Includes references. (NAL Call No.: DNAL S604.5.E58).

0726

Use of residual N and K (nitrogen, potassium) by field corn seeded in full-bed plastic mulch after fall tomatoes (Multiple cropping).

Kalmbacher, R.S. Everett, P.H.; Martin, F.G. (S.I.) : The Society. Proceedings - Soil and Crop Science Society of Florida. 1982. v. 41. p. 43-47. Includes references. (NAL Call No.: 56.9 S032).

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Soil sampling for no-till and conservation tillage crops.

Meints, V.W. MUCBA. Robertson, L.S. East Lansing : The Service. Extension bulletin E - Cooperative Extension Service, Michigan State University. Jan 1983. Jan 1983. (1616). 2 p. ill. (NAL Call No.: 275.29 M58B).

0727

Utilization of labeled-N (nitrogen) fertilizer by silage corn under conventional and non-till culture.

Legg, J.O. Stanford, G. Madison, Wis., American Society of Agronomy. Agronomy journal. Nov/Dec 1979. v. 71 (6). p. 1009-1015. ill. 18 ref. (NAL Call No.: 4 AM34P).

0723

Subsurface liquid and anhydrous fertilizer placement in no-till wheat (Washington).

Hyde, G.M. Simpson, J.B.; Hermanson, R.E. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St.

0728

With no-till, treat nitrogen differently (Maize).

Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Mar 1984. v. 13 (3). p. 4. (NAL Call No.: S604.N6).

0729

**1983-84 agronomy guide / Ohio State University.**  
Document available from: Ohio State University,  
Extension Publication Office, 2120 Fyffe Road,  
Columbus, Ohio 43210 1983. Presents a valuable  
reference on information on Ohio's climate,  
soils, soil conservation, fertilizer and lime  
use, tillage seed selection and quality, crop  
variety selection, crop production practices,  
weed control and herbicides, and many other  
topics. 99 p. : ill. (NAL Call No.: Document  
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472).

# SOIL RESOURCES AND MANAGEMENT

0730

**Basin tillage for water conservation and maximum dryland cotton production.**  
Hudspeth, E.B. Dallas. The Cotton gin and oil mill press. Feb 11, 1978. v. 79 (3). p. 18. (NAL Call No.: 304.8 C822).

0731

**C factors for no-till and conventional-till soybeans from plot data.**  
McGregor, K.C. St. Joseph, Mich. Transactions of the ASAE/American Society of Agricultural Engineers. Nov/Dec 1978. v. 21 (6). p. 1119-1122. ill. 5 ref. (NAL Call No.: 290.9 AM32T).

0732

**Conservation tillage incentive (Erosion control).**  
Brejcha, R.J. Washington, D.C., United States Soil Conservation Service. Soil conservation. Aug 1979. v. 45 (1). p. 20-21. ill. (NAL Call No.: 1.6 S03S).

0733

**Conservation tillage use.**  
Christensen, L.A. JSWCA. Magleby, R.S. Ankeny, IA : Soil Conservation Society of America.  
Extract: American farmers are changing the ways they till the soil. In the past decade, a shift has occurred from almost complete reliance on the moldboard plow and turning the soil each year to conservation tillage practices that disturb the soil less and leave more residue on the soil surface. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 156-157. (NAL Call No.: 56.8 J822).

0734

**Cost-sharing to promote use of conservation tillage.**  
JSWCA3. Tice, T.F. Epplin, F.M. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Oct/Nov 1984. v. 39 (6). p. 395-397. Includes 18 references. (NAL Call No.: DNAL 56.8 J822).

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Doupnik, B. Jr. Boosalis, M.G. St. Paul, Minn., American Phytopathological Society. Plant disease. Jan 1980. v. 64 (1). p. 31-35. ill. 6 ref. (NAL Call No.: 1.9 P69P).

0736

**An economic assessment of zero tillage (feasibility of using herbicides) in wheat-fallow rotations in southern Alberta.**  
Zentner, R.P. Lindwall, C.W. Ottawa, Information Services, Agriculture Canada. Canadian farm economics. Dec 1978. v. 13 (6). p. 1-6. ill. 13 ref. (NAL Call No.: HD1401.C2).

0737

**Effect of no-till and in-row-subsoiling on corn production.**  
King, C.C. Jr. Elkins, C.B. Madison, Wis., American Society of Agronomy. Agronomy abstracts. 1979. 1979. p. 104. (NAL Call No.: 241 AM39).

0738

**Effects of conservation tillage practices on crop yields in the Lake Erie Basin / by Donald J. Eckert.**  
Eckert, Donald J. Buffalo Lake Erie Wastewater Management Study, U.S. Army Corps of Engineers, Buffalo District Springfield, Va. available from NTIS 1981. "December 1981." v. 23 leaves ; 28 cm. Bibliography: leaves 22-23. (NAL Call No.: S602.87.E3).

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**An eleven-year comparison of 0 (zero)-till, conventional and plow-plant corn culture.**  
McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC.Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 31-33. ill. 1 ref. (NAL Call No.: S1.D5).

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**Energy implications of conservation tillage.**  
Lockeretz, W. JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: The deterioration in the nation's energy situation that began in the early 1970s made conservation tillage attractive because of the lower fuel requirements. Farmers annually consume about 2 billion gallons of fuel for tillage and related operations, including cultivation and planting. The cost of this fuel, now somewhat over \$2 billion a year, could be cut appreciably with alternative tillage methods. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 207-211. Includes 33 references. (NAL Call No.: 56.8 J822).

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**Farmers' experience with conservation tillage: a Wisconsin survey.**

Pollard, R.W. Ankeny, Iowa, Soil Conservation Society of America. Journal of soil and water conservation. Sept/Oct 1979. v. 34 (5). p. 215-219. ill. 13 ref. (NAL Call No.: 56.8 J822).

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**Farming trends affect soil's future (Weight of farm machinery, conservation tillage, crop rotations).**

Hardin, G.B. Washington, U. S. Agricultural Research Service. Agricultural research. Feb 1979. v. 27 (8). p. 6-7. ill. (NAL Call No.: 1.98 AG84).

0743

**Getting conservation practices adopted: a farm manager's viewpoint.**

Bennett, M. Columbia, Mo. : The Station. Special report - University of Missouri-Columbia, Agricultural Experiment Station. Nov 11-12, 1982. Nov 11-12, 1982. (290). p. 53-56. (NAL Call No.: S534.M8M5).

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**An introduction to conservation tillage.**

Jackson, G. Daniel, T. Madison, Wis., The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. Wisconsin. University. Cooperative Extension Programs. Nov 1979. Nov 1979. (A3001). 2 p. ill. (NAL Call No.: S544.3.W6W53).

0745

**Microbial and biochemical changes associated with reduced tillage.**

Doran, J.W. Madison, Wis., American Society of Agronomy. Agronomy abstracts. 1979. 1979. p. 156. (NAL Call No.: 241 AM39).

0746

**Minimum tillage production of furrow irrigated sugarbeets in eastern Colorado.**

Skwara, C.T. deMooy, C.J. Ft. Collins. Progress reportColorado. Experiment Station. May 1979. May 1979. (8). 2 p. (NAL Call No.: 100 C71C).

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**Minimum tillage (Sugarbeets).**

McNamee, M.A. Fornstrom, K.J. Laramie. Research journalWyoming. Agricultural Experiment Station. Jan 1978. Jan 1978. (120). p. 3-7. (NAL Call No.: S131.E22).

0748

**Minimum tillage techniques for establishing shrubs in clump plantings (Weed control, grasshopper damage).**

Snyder, W.D. Denver, The Division. Game research report. Colorado. Division of Wildlife. Apr 1979. Apr 1979. p. 247-248. (NAL Call No.: 412.9 C71Q).

0749

**No-till cultivation--better yields from less expense? (Tillage).**

Riechert, B. Athens, University of Georgia College of Agriculture Experiment Stations. Georgia agricultural research. Winter 1979. v. 20 (3). p. 4-9. ill. (NAL Call No.: 100 G295).

0750

**No-till farming; It's not for everyone.**

Newcomer, J.L. Madison, Wis., American Society of Agronomy. Crops and soils magazine. Dec 1978. v. 31 (3). p. 15-16. ill. (NAL Call No.: 6 W55).

0751

**No-till pays off (Reduced tillage, corn and rye).**

Dean, J.E. Washington, D.C., United States Soil Conservation Service. Soil conservation. Aug 1979. v. 45 (1). p. 22. ill. (NAL Call No.: 1.6 S03S).

0752

**No-till planting effective in checking erosion losses (Tillage).**

Hall, J.K. Hartwig, N.L. University Park, Pennsylvania Agricultural Experiment Station. Science in agriculture. Summer 1979. v. 26 (4). p. 10-11. ill. (NAL Call No.: 100 P381S).

0753

**No-tillage farming / by H.M. Young. Minimum tillage farming / by William A. Hayes.**

Young, Harry M. Hayes, William A.; Minimum tillage farming. & Minimum tillage farming. Brookfield, WI No-till Farmer 1982. "The original edition of No-Tillage Farming, published in 1973, was written by S.H. Phillips

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**No-tillage grain production in the Edmonton region (Barley).**

Bentley, C.F. Crepin, J.M. Edmonton, Faculty of Agriculture and Forestry, University of Alberta. Agriculture and forestry bulletin. 1978. . 1 (1). p. 17-25. ill. 2 ref. (NAL Call No.: 101 AL1A).

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**No-tillage maize production in chemically suppressed grass sod (Festuca arundinacea, Poa pratensis, herbicides, erosion control).**

Elkins, D.M. Vandeventer, J.W. Madison. Agronomy journal American Society of Agronomy. Jan/Feb 1979. v. 71 (1). p. 101-105. ill. 9 ref. (NAL Call No.: 4 AM34P).

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**The "other side" of no-till (Herbicides).**

Smyser, S. Emmaus, Pa., Rodale Press. The New farm. Feb 1979. v. 1 (2). p. 78-80. ill. (NAL Call No.: S1.N32).

0757

**Plowing effect on corn yield response to N (nitrogen) following alfalfa (compared with no-tillage).**

Triplett, G.B. Jr. Haghiri, F. Madison, The Society. Agronomy journal American Society of Agronomy. Sept/Oct 1979. v. 71 (5). p. 801-803. ill. 16 ref. (NAL Call No.: 4 AM34P).

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**Potential corn yield related economic incentives for soil carbon conservation (Tillage intensity, crop residue harvest).**

Holtman, J.B. Connor, L.J. St. Joseph, Mich. Transactions of the ASAE American Society of Agricultural Engineers. Jan/Feb 1979. v. 22 (1). p. 75-80. ill. 12 ref. (NAL Call No.: 290.9 AM32T).

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**The pro's and con's of minimum tillage in corn.**

Triplett, G.B. Jr. Washington, D.C., American Seed Trade Association. Proceedings of the ... annual corn and sorghum research conference. American Seed Trade Association. Corn and Sorghum

Research Conference. 1976. 1976. (31st). p. 144-158. ill. 16 ref. (NAL Call No.: 59.9 AM32).

0760

**Reduction of soil erosion by the no-till system in the Southern Piedmont.**

Langdale, G.W. Barnett, A.P. St. Joseph, Mich. Transactions of the ASAE American Society of Agricultural Engineers. Jan/Feb 1979. v. 22 (1). p. 82-86, 92. ill. 17 ref. (NAL Call No.: 290.9 AM32T).

0761

**Sharing conservation tillage information.**

Lake, J.E. JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: A new center for collecting and distributing information on conservation tillage began operation in January 1983. Establishment of the center resulted from the recognition that a gap exists with respect to the flow of information between the private and public sectors. The center's goal is to fill that gap by serving as a clearinghouse to help increase the flow of information from agricultural leaders in both the public and private sectors to farmers and those agencies, institutions, organizations, and industries that assist them daily. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 158-159. (NAL Call No.: 56.8 J822).

0762

**Soil physical properties and rooting under conventional and conservation tillage.**

Campbell, R.B. Sojka, R.E. Madison, Wis., American Society of Agronomy. Agronomy abstracts. 1979. 1979. p. 201. (NAL Call No.: 241 AM39).

0763

**Soil suitability for conservation tillage.**

Casper, H.R. JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: Soil taxonomy, which is the classification of soils based upon qualities and characteristics, offers one means of predicting how soils might react under various forms of conservation tillage. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 152-155. Includes 29 references. (NAL Call No. 56.8 J822).

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0764

**Soil survey of Dunn County, North Dakota / by M. Robert Wright, Jerome Schaar, and Steven J. Tillotson ; United States Department of Agriculture, Soil Conservation Service in cooperation with United States Department of the Interior, Bureau of Indian Affairs and North Dakota Agricultural Experiment Station.** Wright, M. Robert. Schaar, Jerome.; Tillotson, Steven J. (Washington, D.C.) The Service (1982). Issued April 1982 -Includes glossary and index to map sheets. ix, 235 p., (163) folded pages of plates : ill., maps (i col.) ; 28 cm. Bibliography: p. 131. (NAL Call No.: aS591.N9D8).

0769

**What is conservation tillage.**

Manning, J.V.JSWCA. Fenster, C.R. Ankeny, IA : Soil Conservation Society of America. Extract: Conservation tillage is "any (emphasis added) tillage system that reduces loss of soil or water relative to conventional tillage; often a form of noninversion tillage that retains protective amounts of residue mulch on the surface." Conventional tillage, on the other hand, is "the combined primary and secondary tillage operations performed in preparing a seedbed for a given crop grown in a given geographical area. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 141-143. Includes 5 references. (NAL Call No.: 56.8 J822).

0765

**A strip-tillage interseeder from simulated pasture renovation in small experimental plots.** George, J.R. Knoop, W.E. Ames, Iowa State University. Iowa state journal of research. Aug 1979. v. 54 (1). p. 37-43. ill. 10 ref. (NAL Call No.: 470 I09).

0766

**Students build land lab with community help (To develop knowledge and skills in land management, soil conservation, tillage, Frederick County, Maryland).** Talbert, G.F. Washington : The Service. Soil & water conservation news - United States Dept. of Agriculture, Soil Conservation Service. Feb 1983. v. 3 (11). p. 8. (NAL Call No.: aS622.S6).

0767

**Utilization of labeled-N (nitrogen) fertilizer by silage corn under conventional and no-till culture.** Legg, J.O. Stanford, G. Madison, Wis., American Society of Agronomy. Agronomy abstracts. 1979. 1979. p. 175. (NAL Call No.: 241 AM39).

0768

**Water quality consequences of conservation tillage.** Baker, J.L.JSWCA. Lafren, J.M. Ankeny, IA : Soil Conservation Society of America. Extract: Conservation tillage, which leaves some or all of the residue from the previous crop on the soil surface, effectively protects the soil against erosion. Use of conservation tillage has other environmental implications as well, particularly for water quality. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 186-193. Includes 53 references. (NAL Call No.: 56.8 J822).

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0770

An accelerated implementation program for reducing the diffuse-source phosphorus load to Lake Erie.  
JSWCA3. Forster, D.L. Logan, T.J.; Yaksich, S.M.; Adams, J.R. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Jan/Feb 1985. v. 40 (1). p. 136-141. Includes 9 references. (NAL Call No.: DNAL 56.8 J822).

0771

Adopter characteristics and adoption patterns of minimum tillage: implications for soil conservation programs (Iowa).  
Korschning, P.F. JSWCA. Stofferahn, C.W.; Nowak, P.J.; Wagener, D.J. Ankeny, IA : Soil Conservation Society of America. Journal of soil and water conservation. Sept/Oct 1983. v. 38 (5). p. 428-431. ill. Includes references. (NAL Call No.: 56.8 J822).

0772

The adoption of reduced tillage: the role of human capital and other variables.  
Rahm, M.R. Huffman, W.E. Ames, Iowa : American Agricultural Economics Association. Extract: This paper presents a model of adoption behavior and explains differences econometrically in farmers' decisions to adopt reduced-tillage practices and in the efficiency of farmers' adoption decisions. The empirical results, obtained from microdata, show that the probability of adopting reduced tillage in corn enterprises differs widely across farms and depends on soil characteristics, cropping systems, and size of farming operation. The results also show that farmers' schooling enhances the efficiency of the adoption decision. American journal of agricultural economics. Includes statistical data. Nov 1984. v. 66 (4). p. 405-413. Includes 26 references. (NAL Call No.: DNAL 280.8 J822).

0773

After 15 years of no-tillage corn.  
Blevins, R.L. Lexington, Ky. : The Department. Soil science news & views - Cooperative Extension Service and University of Kentucky, College of Agriculture, Department of Agronomy. June 1985. v. 6 (6). 2 p. (NAL Call No.: DNAL S591.55.K4S64).

0774

Agencies test conservation tillage systems for vegetables.  
Gaffney, F.B. Washington, D.C., The Service. Soil and water conservation news - United States Dept. of Agriculture, Soil Conservation Service. Jan 1982. v. 2 (10). p. 4-5. ill. (NAL Call No.: aS622.S6).

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TRIPPLETT, G B. VAN DOREN, D M. Energy in agriculture collection, Michigan State University, Department of Agricultural Engineering. 1979, 7th ed. SDURCE, SCI AMERICAN 236(1)/28-33, 1977. (NAL CALL NUMBER: 470 SCI25). 1979, 7th ed. ( 2482). (NAL Call No.: S494.5.E5E62).

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Air seeding on the ground (conservation tillage system).  
Hardy, J. SCS~SCS. Washington, D.C., United States Soil Conservation Service. Soil conservation. Jan 1980. v. 45 (6). p. 18. ill. (NAL Call No.: 1.6 S03S).

0777

Alternatives in orchard ground cover management (in herbicide use, tillage methods and non-tillage methods).  
Stiles, W.C. North Amherst, Mass. : The Association. New England fruit meetings ... Proceedings of the ... annual meeting - Massachusetts Fruit Growers' Association. 1984. 1984. (90th). p. 62-69. Includes references. (NAL Call No.: 81 M384).

0778

Annotated bibliography of selected extension publications, conservation tillage /by J.W. Bauder. -.  
Bauder, J. W. Washington, D.C.? : Conservation Tillage Information Center ; Fort Wayne, Ind. (2010 Inwood Dr., Fort Wayne 46815) : Available from Conservation Tillage Information Center, 1984. Cover title: Cooperative extension publications on conservation tillage, an annotated bibliography.~ "A special project of the National Association of Conservation Districts."~ "This publication was produced as a cooperative effort of the Montana Cooperative Extension Service, the Minnesota Agricultural Extension Service, the Extension Service-USDA and the Conservation Tillage"~ "July 1984.". 84 p. ; 28 cm. (NAL Call No.: DNAL Z5074.S65B37).

0779

Appropriate mechanization for no-tillage in the Tropics.  
Garman, C.F. Ngambeki, D.S.; Navasero, N.C. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order

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Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-5002). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

0780

**An argument for wide beds with conservation tillage.**

Morrison, J.E. Jr. Gerik, T.J. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1983. Paper presented at the 1983 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1983. (fiche no. 83-1543). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

0781

**Assessing the physical condition of a Piedmont soil under long term conventional and no-tillage (Georgia).**

Tollner, E.W. Hargrove, W.L. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-1514). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

0782

**Association of interseeded legume cover crops and annual row crops in year-round cropping systems.**

Palada, M.C. Ganser, S.; Hofstetter, R.; Volak, B.; Culik, M. New York : Praeger, 1983. Environmentally sound agriculture : selected papers, 4th conference, International Federation of Organic Agriculture Movements, Cambridge, Mass., August 18-20, 1982 / edited by William Lockeretz. p. 193-213. Includes 17 references. (NAL Call No.: DNAL S604.5.E58).

0783

**Atrazine dissipation in conventional-till and no-till sorghum (Pesticide degradation, soil cultivation, Nebraska).**

Ghadiri, H. Shea, P.J.; Wicks, G.A.; Haderlie, L.C. Madison, Wis. : American Society of Agronomy. Journal of environmental quality. Oct/Dec 1984. v. 13 (4). p. 549-552. ill. Includes 28 references. (NAL Call No.:

QH540.J6).

0784

**Atrazine efficacy and longevity as affected by tillage, liming, and fertilizer type (Herbicide residue, under no-tillage and conventional systems in North Carolina).**

Lowder, S.W. Weber, J.B. Champaign, Ill., Weed Science Society of America. Weed science. May 1982. v. 30 (3). p. 273-280. Includes 25 ref. (NAL Call No.: 79.8 W41).

0785

**Availability of 15N (nitrogen isotope)-labeled nitrogen in fertilizer and in wheat straw to wheat in tilled and no-till soil (Denitrification).**

Frederickson, J.K. SSSJD. Koehler, F.E.; Cheng, H.H. Madison : The Society. Journal - Soil Science Society of America. Nov/Dec 1982. v. 46 (6). p. 1218-1222. 28 ref. (NAL Call No.: 56.9 S03).

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Waelti, J.J. St. Paul, Minn., The Department. Extract: The market creates incentives for the producer which lead to a rate of soil erosion greater than that consistent with public policy objectives. Therefore, methods are needed to reduce soil erosion to levels consistent with public policy objectives. Technology oriented toward cropping and tillage practices more consistent with soil conservation is a step in that direction. The fostering of a "conservation ethic" may reduce the necessity for rules and regulations on cropping and tillage practices. Yet, as long as the market incentives lead to actions not consistent with social objectives,

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Robillard, P.D. Walter, M.F.; Hexem, R.W. Amherst, The Council. Extract: Control of sediment has become increasingly important as an element of many water quality improvement programs. An analytical method using the universal soil loss equation and linear

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Halvorson, A.D. Hartman, G.P. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1984. v. 76 (4). p. 603-606. ill. Includes references. (NAL Call No.: 4 AM34P).

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**Reduced tillage for soybeans (Wheat).**  
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Block, J.R. Washington : The Office. Major news releases and speeches - United States Department of Agriculture, Office of Governmental and Public Affairs. Mar 18/25, 1983. Mar 18/25, 1983. p. 1-6. (NAL Call No.: aS21.A8U51).

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Kerestes, D. Easter, K.W. St. Paul, Minn., The Department. Extract: This paper provides a brief synthesis of articles, papers and studies concerned with soil conservation programs, practices and strategies and their effects on income and water quality. The emphasis is on publications during the 1970's to help bring researchers up-to-date on some of the current literature. However, the reader should not neglect materials from the earlier periods, some of which are summarized elsewhere. Staff paper P - University of Minnesota, Dept. of Agricultural and Applied Economics. Jan 1981. Literature review. Jan 1981. (81-1). 36 p. Bibliography p. 9-36. (NAL Call No.: HD1761.A1M5).

## (SOIL EROSION AND RECLAMATION)

1311

**Role of legume cover crops in conservation tillage production systems (Soil erosion, nitrogen supply, crimson clover, *Trifolium incarnatum*, *Sorghum*, *Sorghum bicolor*).**  
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USDA-SCS. Washington, D.C., The Department. Program aid - U.S. Department of Agriculture. May 1980. May 1980. (1263). 5 p. ill. (NAL Call No. : 1 AG84PRO).

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Barker, P.O. Washington, D.C. : The Service. Soil & water conservation news - United States Dept. of Agriculture, Soil Conservation Service. Sept 1985. v. 6 (6). p. 9-10. ill. (NAL Call No. : DNAL aS622.S6).

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Michalson, E.L. Powell, M.L.; Brooks, R.O. Moscow : The Service. Current information series - Cooperative Extension Service, University of Idaho. Dec 1983. (721). 4 p. (NAL Call No. : DNAL 275.29 ID131 'C).

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**Short- and long-term cost comparisons of conventional and conservation tillage systems in corn production.**  
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**Slot mulching for residue management and erosion control (in no-tillage and minimum-tillage systems).**  
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**Soil erosion and conservation in Monroe County, Missouri: farmers' perceptions, attitudes, and performances.**

Ervin, D.E. Alexander, C.T. Columbia, Missouri, The Department. Paper - University of Missouri-Columbia, Dept. of Agricultural Economics. Feb 10, 1981. Feb 10, 1981. (1981-10). 52 p. 6 ref. (NAL Call No.: 917437(AGE)).

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**Soil erosion awareness and use of conservation tillage for water quality control.**

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**Soil erosion on new cropland: a sodbusting perspective.**

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**Soil loss reduction in Finley Creek, Indiana: an economic analysis of alternative policies.**

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Cogo, N.P. Moldenhauer, W.C.; Foster, G.R. Madison, Wis. : The Society. Journal - Soil Science Society of America. Mar/Apr 1984. v. 48 (2). p. 368-373. Includes references. (NAL Call No.: 56.9 SO3).

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Casper, H.R. Washington, The Service. Extract: Soil taxonomy provides the method and precision to group soils according to the likely effects on crop yields of reduced tillage and no till practices. The use of taxonomy for this purpose is discussed and illustrated, including its advantages over the Capability Classification System. ESCS staff report - U.S. Dept. of Agriculture, Economics, Statistics, and Cooperatives Service. Mar 1979. Mar 1979. 35 p. maps. Includes ref. (NAL Call No.: 916762(AGE)).

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## (SOIL EROSION AND RECLAMATION)

1331

**Switchgrass establishment by conservation tillage: planting date responses of two varieties (Panicum virgatum, useful for soil erosion control, reclamation of disturbed sites, nesting areas for upland birds and waterfowl, wildlife cover, and permanent pasture).**

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### **Wind erosion control methods.**

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Lindstrom, M.J. Voorhees, W.B.; Onstad, C.A. Ankeny, IA : Soil Conservation Society of America. *Journal of soil and water conservation*. Jan/Feb 1984. v. 39 (1). p. 64-67. ill. Includes references. (NAL Call No.: 56.8 J822).

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**Trends in conservation tillage use.**  
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**Using simulation to assess the impacts of conservation tillage on movement of sediment and phosphorus into Lake Erie.**  
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# FORESTRY

1338

**EASTSIDE SALEM SUSTAINED YIELD UNITS TEN-YEAR TIMBER MANAGEMENT PLAN, OREGON.**  
DEPARTMENT OF THE INTERIOR- BUREAU OF LAND MANAGEMENT. SALEM, OREGON DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT MAY 1983 (EPA: MAY 31, 1983). (PUR)IMPLEMENTATION OF A 10-YEAR TIMBER-MANAGEMENT PLAN FOR THE 159,898 ACRES OF PUBLIC LAND IN THE CLACKAMAS-MOLALLA AND SANTIAM SUSTAINED YIELD UNITS ON THE EAST SIDE OF THE SALEM DISTRICT OF OREGON IS PROPOSED. THESE LANDS, WHICH ARE PRIMARILY REVESTED OREGON AND CALIFORNIA RAILROAD LANDS, ARE WIDELY DISPERSED OVER PORTIONS OF CLACKAMAS, LINN, MARION, AND MULTNOMAH COUNTIES. THE PREFERRED MANAGEMENT PLAN WOULD INVOLVE ALLOCATION OF 90.9 MILLION BOARD-FEET OF TIMBER ANNUALLY FOR HARVEST FROM A 102,901-ACRE INTENSIVE TIMBER PRODUCTION BASE AND AN 18,696-ACRE CONSTRAINED TIMBER BASE; CONSTRUCTION OF 96 MILES OF ROAD AND RECONSTRUCTION OF 50 MILES OF ROAD; PLANTATION PROTECTION MEASURES ON 4,362 ACRES; PLANTATION MAINTENANCE AND RELEASE ACTIVITIES ON 5,553 ACRES; PRECOMMERCIAL THINNING ON 11,162 ACRES; AND FERTILIZATION ON 7,984 ACRES. TIMBER HARVEST ACTIVITIES FOR THE 10-YEAR PERIOD BETWEEN 1983 AND 1992 WOULD INVOLVE CLEARCUTTING ON 12,880 ACRES, SHELTERWOOD CUTTING ON 674 ACRES, MORTALITY SALVAGE CUTTING ON 1,065 ACRES, AND COMMERCIAL THINNING ON 1,488 ACRES. SITE PREPARATION ACTIVITIES WOULD INVOLVE BROADCAST BURNING OF 11,343 ACRES, HERBICIDE SPRAYING ON 5,050 ACRES, MANUAL SITE PREPARATION ON 367 ACRES, AND MECHANICAL SITE PREPARATION ON 3,578 ACRES. INITIAL PLANTING PROVISIONS WOULD BE IMPLEMENTED ON 12,544 ACRES, WHILE REPLANT OR INTERPLANT PROVISIONS WOULD BE IMPLEMENTED ON 6,900 ACRES. (POS)IN ADDITION TO PROVIDING MARKETABLE TIMBER PRODUCTS, THE PLAN WOULD PROVIDE FOR PROTECTION OF RIPARIAN ZONES TO BENEFIT WATER QUALITY AND FISH AND WILDLIFE HABITAT. SENSITIVE WILDLIFE HABITAT WOULD RECEIVE SPECIAL PROTECTION. CUMULATIVE SEDIMENTS PRODUCED AS A RESULT OF ACTIVITIES IN THE AREA WOULD DECREASE FROM EXISTING LEVELS. SLOW-GROWING TIMBER STANDS WOULD BE REPLACED BY YOUNG, FAST-GROWING STANDS. THE PLAN WOULD CREATE AN ADDITIONAL 379 JOBS AT AN ANNUAL WAGE OF \$5.1 MILLION. (NEG)TIMBER HARVESTING, ROAD CONSTRUCTION, AND PRESCRIBED BURNING WOULD DEGRADE AIR QUALITY PERIODICALLY AND INCREASE EROSION AND. USAID EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 254 PAGES. (NAL Call No.: 83-

1339

**EASTSIDE SALEM TIMBER MANAGEMENT, OREGON.**  
DEPARTMENT OF THE INTERIOR- BUREAU OF LAND MANAGEMENT. SALEM, OREGON DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT JANUARY 1982 (EPA: JANUARY 21, 1982). (PUR)IMPLEMENTATION OF A 10-YEAR TIMBER-MANAGEMENT PLAN FOR THE 159,898 ACRES OF PUBLIC LAND IN THE CLACKAMAS-MOLALLA AND SANTIAM SUSTAINED YIELD UNITS ON THE EAST SIDE OF THE SALEM DISTRICT OF OREGON IS PROPOSED. THESE LANDS, WHICH ARE PRIMARILY REVESTED

OREGON AND CALIFORNIA RAILROAD LANDS, ARE WIDELY DISPERSED OVER PORTIONS OF CLACKAMAS, LINN, MARION, AND MULTNOMAH COUNTIES. THE PREFERRED MANAGEMENT PLAN WOULD INVOLVE ALLOCATION OF 90.9 MILLION BOARD-FEET OF TIMBER ANNUALLY FOR HARVEST FROM A 102,901-ACRE INTENSIVE TIMBER PRODUCTION BASE AND AN 18,696-ACRE CONSTRAINED TIMBER BASE; CONSTRUCTION OF 96 MILES OF ROAD AND RECONSTRUCTION OF 50 MILES OF ROAD; PLANTATION PROTECTION MEASURES ON 4,362 ACRES; PLANTATION MAINTENANCE AND RELEASE ACTIVITIES ON 5,553 ACRES; PRECOMMERCIAL THINNING ON 11,162 ACRES; AND FERTILIZATION ON 7,984 ACRES. TIMBER HARVEST ACTIVITIES FOR THE 10-YEAR PERIOD BETWEEN 1983 AND 1992 WOULD INVOLVE CLEARCUTTING ON 12,880 ACRES, SHELTERWOOD CUTTING ON 674 ACRES, MORTALITY SALVAGE CUTTING ON 1,065 ACRES, AND COMMERCIAL THINNING ON 1,488 ACRES. SITE PREPARATION ACTIVITIES WOULD INVOLVE BROADCAST BURNING OF 11,343 ACRES, HERBICIDE SPRAYING ON 5,050 ACRES, MANUAL SITE PREPARATION ON 367 ACRES, AND MECHANICAL SITE PREPARATION ON 3,578 ACRES. INITIAL PLANTING PROVISIONS WOULD BE IMPLEMENTED ON 12,544 ACRES, WHILE REPLANT OR INTERPLANT PROVISIONS WOULD BE IMPLEMENTED ON 6,900 ACRES. (POS)IN ADDITION TO PROVIDING MARKETABLE TIMBER PRODUCTS, THE PLAN WOULD PROVIDE FOR PROTECTION OF RIPARIAN ZONES TO BENEFIT WATER QUALITY AND FISH AND WILDLIFE HABITAT. SENSITIVE WILDLIFE HABITAT WOULD RECEIVE SPECIAL PROTECTION. CUMULATIVE SEDIMENTS PRODUCED AS A RESULT OF ACTIVITIES IN THE AREA WOULD DECREASE FROM EXISTING LEVELS. SLOW-GROWING TIMBER STANDS WOULD BE REPLACED BY YOUNG, FAST-GROWING STANDS. THE PLAN WOULD CREATE AN ADDITIONAL 319 JOBS AT AN ANNUAL WAGE OF \$4.3 MILLION. (NEG)TIMBER HARVESTING, ROAD CONSTRUCTION, AND PRESCRIBED BURNING WOULD DEGRADE AIR QUALITY. USAID EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 243 PAGES. (NAL Call No.: 82-01080.3-0350F).

1340

## EUGENE SUSTAINED YIELD UNITS, TEN-YEAR TIMBER MANAGEMENT PLAN, OREGON.

DEPARTMENT OF THE INTERIOR- BUREAU OF LAND MANAGEMENT. EUGENE, OREGON DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT MAY 1983 (EPA: MAY 31, 1983). (PUR)IMPLEMENTATION OF A 10-YEAR TIMBER MANAGEMENT PLAN IS PROPOSED FOR 316,747 ACRES OF LAND ADMINISTERED BY THE BUREAU OF LAND MANAGEMENT WITHIN THE SIUSLAW AND UPPER WILLAMETTE SUSTAINED YIELD UNITS (SYUS) OF THE EUGENE DISTRICT OF OREGON. APPROXIMATELY 93 PERCENT OF THE EUGENE DISTRICT LIES IN LANE COUNTY, WITH THE REMAINDER SCATTERED THROUGHOUT LINN, BENTON, AND DOUGLAS COUNTIES. APPROXIMATELY 307,900 ACRES WITHIN THE SYUS ARE FORESTED. THE PREFERRED MANAGEMENT SCHEME WOULD CREATE AN EAST-WEST LINKAGE OF OLD-FOREST HABITAT BETWEEN THE COAST AND CASCADE RANGES AND A SYSTEM OF WILDLIFE CORRIDORS IDENTIFIED IN THE SOUTH COAST/CURRY RECORD OF DECISION AND ROSEBURG FINAL ENVIRONMENTAL IMPACT STATEMENT OF MAY 1983 (SEE 83-0351F). THE SYU PLAN WOULD DEVOTE 265,416 ACRES TO INTENSIVE TIMBER MANAGEMENT, WHILE

(FORESTRY)

10,900 ACRES WOULD BE MANAGED ON EXTENDED ROTATION OF 350 YEARS TO CREATE THE CORRIDOR. APPROXIMATELY 360 ADDITIONAL ACRES WOULD BE MANAGED ON EXTENDED ROTATION OF 120 YEARS TO PROTECT SCENIC VALUES WITHIN THE MCKENZIE RIVER CORRIDOR. SIX OUT OF SEVEN LARGE BLOCK AREAS, DESIGNATED COMPONENTS OF A SERAL STAGE DISTRIBUTION, WOULD ALSO BE INCORPORATED INTO THE CORRIDOR. RIPARIAN ZONES ALONG THIRD-ORDER STREAMS WOULD BE PROTECTED. TIMBER MANAGEMENT AND FOREST DEVELOPMENT PRACTICES WOULD INCLUDE MEASURES TO REDUCE IMPACTS TO WILDLIFE HABITAT IN EARLY FOREST SERAL STAGES. THE ANNUAL TIMBER SALE WOULD AMOUNT TO 223 MILLION BOARD-FEET. PLAN IMPLEMENTATION WOULD REQUIRE CONSTRUCTION OF 320 MILES OF FOREST ROAD, CLEARCUTTING OF 39,954 ACRES, MORTALITY SALVAGE OF TIMBER ON 1,046 ACRES, COMMERCIAL THINNING ON 13,084 ACRES, Broadcast BURNING ON 25,500 ACRES, HERBICIDE APPLICATION ON 7,850 ACRES, MANUAL SITE PREPARATION ON 3,000 ACRES, MECHANICAL SITE PREPARATION ON 3,300 ACRES, INITIAL TREE PLANTING ON 38,510 ACRES, REPLANTING/INTERPLANTING ON 9,628 ACRES, PLANTATION PROTECTION ON 12,835 ACRES, PLANTATION MAINTENANCE/RELEASE ON 38,550 ACRES, PRECOMMERCIAL THINNING ON 14,011 ACR. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 179 PAGES. (NAL Call No.: 8

1341

**TIMBER RESOURCE MANAGEMENT PLAN, LAKEVIEW FEDERAL SUSTAINED YIELD UNIT, FREMONT NATIONAL FOREST.**

DEPARTMENT OF AGRICULTURE- FOREST SERVICE, PORTLAND, OREGON DEPARTMENT OF AGRICULTURE, FOREST SERVICE FEBRUARY 1979 (EPA: FEBRUARY 26, 1979). (PUR) A TEN-YEAR TIMBER-MANAGEMENT PLAN IS PRESENTED FOR THE 667,000-ACRE LAKEVIEW FEDERAL SUSTAINED-YIELD UNIT OF THE FREMONT NATIONAL FOREST IN KLAMATH AND LAKE COUNTIES IN SOUTH-CENTRAL OREGON. THE PROPOSED INTENSIVE MANAGEMENT PROGRAM WOULD CALL FOR PROMPT REFORESTATION OF ALL ACRES HARVESTED BY REGENERATION METHODS; PRECOMMERCIAL THINNING OR INTERPLANTING FOR STOCKING LEVEL CONTROL ON NEEDED ADDITIONAL ACRES; RELEASE OF PLANTATIONS FROM OTHER VEGETATIVE COMPETITION WHERE NEEDED; REGENERATION. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700 ARLINGTON, VA 22209. 335 PAGES. (NAL Call No.: 79-0462F).

## FORESTRY RELATED

1342

Douglas-fir stem growth per unit of leaf area increased by interplanted Sitka alder and red alder (*Pseudotsuga menziesii*, *Alnus sinuata*, *Alnus rubra*, ratio of leaf area to sapwood area, photosynthesis, British Columbian forests).

Binkley, D. Washington : Society of American Foresters. Forest science. Mar 1984. v. 30 (1). p. 259-263. ill. Includes references. (NAL Call No.: 99.8 F7632).

1343

Legume interplanting reduces growth of young loblolly pine on eroded Piedmont sites.

Nix, L.E. New Orleans, La. : The Station. Forest Service general technical report SO - United States, Southern Forest Experiment Station. Paper presented at the "Third Biennial Southern Silvicultural Research Conference," November 7/8, 1984, Atlanta, Georgia. Apr 1985. (54). p. 375-378. Includes references. (NAL Call No.: DNAL aSD11.U57).

# FORESTRY PRODUCTION - GENERAL

1344

**Shrubs for interplanting in developing  
ponderosa pine stands.**

Bjugstad, A.J. Messner, H.E. Portland, Or., The  
Society. Abstracts of papers presented at the  
... annual meeting of the American Society of  
Range Management. American Society of Range  
Management. 1977. 1977. (30th). p. 15. (NAL  
Call No.: SB193.A44).

# FORESTRY PROD. - ARTIFICIAL REGENERATION

1345

**Cover vegetation in filberts and Christmas trees (No-till methods, Oregon).**  
Lagerstedt, H. Corvallis, Or. : International Plant Protection Center, Oregon State University, 1982. Crop production using cover crops and sods as living mulches : workshop proceedings / edited by J.C. Miller and S.M. Bell. p. 56-66. (NAL Call No.: S661.5.C7).

1346

**Effects of surface treatment and interplanting of shrub alter on growth of Douglas-fir on coal spoils.**  
Heilman, P.JEVQA. Madison : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1983. v. 12 (1). p. 109-113. 13 ref. (NAL Call No.: QH540.U6).

1347

**Interplanting in old field loblolly pine plantations: results at time of first thinning.**  
Dierauf, T.A. Garner, J.W.; Olinger, H.L. Richmond, The Division. Occasional report - Virginia Division of Forestry, Department of Conservation and Economic Development. Virginia. Dept. of Conservation and Economic Development. Division of Forestry. Apr 1980. Apr 1980. (53). 7 p. ill. 2 ref. (NAL Call No.: SD12.V8V8).

# FOREST PRODUCTS - PULP AND PAPER

1348

**Issue in pollution control: interplant cost differences and economies of scale (Pulp and paper industry).**

Pittman, R.W. Madison, University of Wisconsin Press. Land economics. Feb 1981. v. 57 (1). p. 1-17. Bibliography p. 13-15. (NAL Call No.: 282.8 J82).

# ENTOMOLOGY RELATED

1349

**Arthropods in no-tillage soybean agroecosystems: community composition and ecosystem interactions.**  
House, G.J. EMNGD. Stinner, B.R. New York : Springer International. Environmental management. Jan 1983. Literature review. v. 7 (1). p. 23-28. ill. Includes references. (NAL Call No.: HC79.E5E5).

1350

**Farm agricultural resources management / Iowa State University.**  
Document available from: Iowa State University, Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011 1982. This publication gives extensive information about soil tillage practices. Also includes some operational costs and information about insects, weeds, and diseases in soil. 146 p. ill. (NAL Call No.: Document available from source.).(NAL Call No.: CE-1755).

1351

**Intercropping as cultural pest control: prospects and limitations.**  
Risch, S.J. EMNGD. New York : Springer International. Environmental management. Jan 1983. Literature review. v. 7 (1). p. 9-14. (NAL Call No.: HC79.E5E5).

1352

**Some observations on ecology of the stalk borer (*Papaipema nebris* (Gn.):*Noctuidae*) in no-tillage corn agroecosystems (Ohio).**  
Stinner, B.R. McCartney, D.A.; Rubink, W.L. Athens, Ga. : The Society. Journal of the Georgia Entomological Society. Apr 1984. v. 19 (2). p. 229-234. Includes references. (NAL Call No.: QL461.G4).

# ANIMAL PRODUCTION

1353

**Waterfowl production on zero tillage farms  
(Manitoba).**

Cowan, W.F. WLSBA. Bethesda : The Society.  
Wildlife Society bulletin. Winter 1982. v. 10  
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1492

## BURNHAM CREEK WATERSHED, POLK COUNTY, MINNESOTA.

EAST POLK SOIL AND WATER CONSERVATION DISTRICT. ST. PAUL, MINNESOTA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE FEBRUARY 1982 (EPA: AUGUST 26, 1982). (PUR)IMPLEMENTATION OF A WATERSHED PROTECTION AND FLOOD PREVENTION PLAN WITHIN THE 104,200-ACRE BURNHAM CREEK WATERSHED IN SOUTHWESTERN POLK COUNTY, MINNESOTA IS PROPOSED. THE COUNTY LIES IN THE NORTHWESTERN PORTION OF THE STATE. THE PLAN WOULD INCLUDE LAND TREATMENT, CONSTRUCTION OF A MULTIPLE-PURPOSE FLOODWATER-RETARDING AND WILDLIFE-ENHANCEMENT STRUCTURE, 14.4 MILES OF CHANNEL WORK, AND PRESERVATION OF A 26-ACRE NATURAL AREA. PRIORITY LAND-TREATMENT MEASURES WOULD INVOLVE TREATMENT OF A MINIMUM OF 50 PERCENT OF THE INADEQUATELY PROTECTED CROPLAND WITHIN THE IMMEDIATE AREA OF THE CHANNEL WORK AND IN THE DRAINAGE AREA OF THE MULTIPLE-PURPOSE STRUCTURE. THIS TREATMENT WOULD COVER 5,500 ACRES. THE SECOND PRIORITY LAND-TREATMENT MEASURES WOULD INVOLVE TREATMENT OF A MINIMUM OF 50 PERCENT OF THE INADEQUATELY PROTECTED CROPLAND IN THE REMAINING SECTIONS OF THE WATERSHED. THIS TREATMENT WOULD COVER 3,200 ACRES. LAND TREATMENTS WOULD INCLUDE 5,800 ACRES OF CRPD RESIDUE USE, 2,900 ACRES OF CONSERVATION TILLAGE SYSTEMS, 10 MILES OF FIELD WINDBREAKS, FIVE GRADE-STABILIZATION STRUCTURES, AND FIVE WATER CONTROL STRUCTURES. THESE MEASURES WOULD BE INSTALLED VOLUNTARILY BY LANDOWNERS AND OPERATORS. THE MULTIPLE-PURPOSE STRUCTURE, WHICH WOULD CONSIST OF AN 18-FOOT-HIGH EMBANKMENT DAM AND A 1,210-ACRE-FOOT RESERVOIR, WOULD CONTROL RUNOFF FROM 8.1 SQUARE MILES OF DRAINAGE AREA. ACQUISITION OF THREE ACRES OF LAND ON EASEMENTS AND 338 ACRES OF LAND IN FEE WOULD BE REQUIRED FOR CONSTRUCTION OF THE DAM AND RESERVOIR. A

95-ACRE WILDLIFE POOL WOULD BE ESTABLISHED WITHIN THE RESERVOIR, AND PRAIRIE PLANT SPECIES WOULD BE PLANTED FOR NESTING COVER AND WILDLIFE HABITATION ON THE REMAINING LAND. CHANNEL WORK WOULD INCLUDE MODIFICATION OF 12.5 MILES OF ARTIFICIAL DITCHES OR PREVIOUSLY MODIFIED CHANNEL AND 1.9 MILES OF WELL-DEFINED NATURAL CHANNEL. ESTIMATED COST OF THE FIVE-YEAR PROJECT IS \$3.0 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.3. (PDS)THE PROJECT WOULD REDUCE EROSION ON 8,000 USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 141 PAGES.

# WATER RESOURCES AND MANAGEMENT

1493

## BURNHAM CREEK WATERSHED, POLK COUNTY, MINNESOTA.

EAST POLK SDIL AND WATER CONSERVATION DISTRICT. ST. PAUL, MINNESOTA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE OCTOBER 1981 (EPA: NOVEMBER 3, 1981). (PUR)IMPLEMENTATION OF A WATERSHED PROTECTION AND FLOOD PREVENTION PLAN WITHIN THE 104,200-ACRE BURNHAM CREEK WATERSHED IN SOUTHWESTERN POLK COUNTY, MINNESOTA IS PROPOSED. THE COUNTY LIES IN THE NORTHWESTERN PORTION OF THE STATE. THE PLAN WOULD INCLUDE LAND TREATMENT, CONSTRUCTION OF A MULTIPLE-PURPOSE FLOWWATER-RETARDING AND WILDLIFE-ENHANCEMENT STRUCTURE, AND 14.4 MILES OF CHANNEL WORK. PRIORITY LAND-TREATMENT MEASURES WOULD INVOLVE TREATMENT OF A MINIMUM OF 50 PERCENT OF THE INADEQUATELY PROTECTED CROPLAND WITHIN THE IMMEDIATE AREA OF THE CHANNEL WORK AND IN THE DRAINAGE AREA OF THE MULTIPLE-PURPOSE STRUCTURE. THIS TREATMENT WOULD COVER 5,500 ACRES. THE SECOND PRIORITY LAND-TREATMENT MEASURES WOULD INVOLVE TREATMENT OF A MINIMUM OF 50 PERCENT OF THE INADEQUATELY PROTECTED CROPLAND IN THE REMAINING SECTIONS OF THE WATERSHED. THIS TREATMENT WOULD COVER 3,200 ACRES. LAND TREATMENTS WOULD INCLUDE 5,800 ACRES OF CROP RESIDUE USE, 2,900 ACRES OF CONSERVATION TILLAGE SYSTEMS, 10 MILES OF FIELD WINDBREAKS, FIVE GRADE-STABILIZATION STRUCTURES, AND FIVE WATER CONTROL STRUCTURES. THESE MEASURES WOULD BE INSTALLED VOLUNTARILY BY LANDOWNERS AND OPERATORS. THE MULTIPLE-PURPOSE STRUCTURE, WHICH WOULD CONSIST OF AN 18-FODT-HIGH EMBANKMENT DAM AND A 1,210-ACRE-FOOT RESERVOIR, WOULD CONTROL RUNOFF FROM 8.1 SQUARE MILES OF DRAINAGE AREA. ACQUISITION OF THREE ACRES OF LAND ON EASEMENTS AND 338 ACRES OF LAND IN FEE WOULD BE REQUIRED FOR CONSTRUCTION OF THE DAM AND RESERVOIR. A 95-ACRE WILDLIFE POOL WOULD BE ESTABLISHED WITHIN THE RESERVOIR, AND PRAIRIE PLANT SPECIES WOULD BE PLANTED FOR NESTING COVER AND WILDLIFE HABITATION ON THE REMAINING LAND. CHANNEL WORK WOULD INCLUDE MODIFICATION OF 12.5 MILES OF ARTIFICIAL DITCHES OR PREVIOUSLY MODIFIED CHANNEL AND 1.9 MILES OF WELL-DEFINED NATURAL CHANNEL. ESTIMATED COST OF THE FIVE-YEAR PROJECT IS \$3.0 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.3. (POS)THE PROJECT WOULD REDUCE EROSION ON 8,700 ACRES AND FLOOD DAMAGES ON 19,800 AC. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 102 PAGES. (NAL Call No.: 81-

No. : S494.5.P75C7).

1495

Conservation tillage effects on water conservation and runoff : project completion report / by James M. Steichen, Russell W. LaForce ; a research project conducted by the Kansas Water Resources Institute at Kansas State University, Manhattan, Kansas.

Steichen, James M. LaForce, Russell W. Manhattan, Kan. The Institute Springfield, Va. reproduced by National Technical Information Service 1983. "Project completion report for period October 1, 1979 to December 31, 1981. Prepared for United States Department of the Interior" ~"September 1982. ~"October 1982"--Cover ~"PB83-139865". iii, 22 leaves : ill. ; 28 cm. - Bibliography: leaf 21. (NAL Call No.: S604.S7 1983).

1496

Cornstalk decomposition on a till-planted watershed (Erosion control, conservation tillage).

Alberts, E.E. AR-NC. Shrader, W.D. Madison, Wis., American Society of Agronomy. Agronomy journal. Sept/Oct 1980. v. 72 (5). p. 709-712. ill. 19 ref. (NAL Call No.: 4 AM34P).

1497

Effect of conservation tillage on runoff water quality: total, dissolved and algal-available phosphorus losses.

Mueller, D.H. Andraski, B.J.; Daniel, T.C.; Lowery, B. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1983. Paper presented at the 1983 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1983. (fiche no. 83-2535). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1498

Evaluation of agricultural sediment control practices relative to water quality planning.

Robillard, P.O. Walter, M.F.; Hexem, R.W. Amherst, The Council. Extract: Control of sediment has become increasingly important as an element of many water quality improvement programs. An analytical method using the universal soil loss equation and linear programming to determine the cost-effectiveness of alternative sediment control practices is developed. Applications of this method to four case study farms and a hypothetical watershed are analyzed. The analyses illustrate the need for developing priorities so as to achieve

1494

## Conservation aspects of selected tillage systems on western Iowa cornfields (Watersheds).

Spomer, R.G. Hjelmfelt, A.T.; Piest, R.F. St. Joseph, Mich. (P.D. Box 410), American Society of Agricultural Engineers, 1980. Crop production with conservation in the 80's : proceedings of the American Society of Agricultural Engineers Conference on Crop Production with Conservation in the 80's, December 1-2, 1980, Palmer House, Chicago, Illinois. p. 216-227. ill. 10 ref. (NAL Call

## (WATER RESOURCES AND MANAGEMENT)

greatest reduction in sediment losses per dollar of cost. The costs per unit of sediment reduction vary greatly with area, soil, and strategy or technique used. Journal - Northeastern Agricultural Economics Council. Apr 1980. v. 9 (1). p. 29-36. 10 ref. (NAL Call No.: HD1773.A2N6). (NAL Call No.: 81-0726D).

1499

### HACKLEBARNEY WATERSHED, ADAMS AND MONTGOMERY COUNTIES, IOWA.

ADAMS COUNTY BOARD OF SUPERVISORS. DES MOINES, IOWA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JULY 1981 (EPA: JULY 22, 1981). (PUR)INSTALLATION OF LAND-TREATMENT MEASURES WITHIN THE 44,250-ACRE HACKLEBARNEY WATERSHED IN MONTGOMERY AND ADAMS COUNTIES, IOWA IS PROPOSED. A COMPLETE SYSTEM OF LAND-TREATMENT MEASURES WOULD BE INSTALLED TO PROTECT THE WATERSHED FROM EXCESSIVE EROSION. THE SYSTEM WOULD INCLUDE 225 MILES OF WATER AND SEDIMENT CONTROL BASINS, 146 GRADE STABILIZATION STRUCTURES, 100 ACRES OF GRASSED WATERWAYS OR OUTLETS, 5,805 ACRES OF CONSERVATION TILLAGE SYSTEMS, WILDLIFE HABITAT MANAGEMENT ON 300 ACRES OF UPLAND, CRITICAL AREA PLANTING ON 200 ACRES, AND 10 MILES OF DIVERSIONS. THE LAND-TREATMENT MEASURES WOULD BE INSTALLED BY INDIVIDUAL LAND USERS DURING A 15-YEAR PERIOD. ESTIMATED COST OF IMPLEMENTING PROJECT MEASURES IS \$4.8 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.2. (POS)THE PROGRAM WOULD COMPLETE PROPOSED LAND TREATMENT 151 YEARS EARLIER THAN CURRENTLY EXPECTED. APPROXIMATELY 850 ACRES OF PRIME FARMLAND WOULD BE MAINTAINED BY THE LAND-TREATMENT MEASURES. THE LAND-TREATMENT MEASURES WOULD CONTROL 100 PERCENT OF THE EXCESSIVE EROSION AND RILL EROSION AND 78 PERCENT OF THE GULLY EROSION WITHIN THE WATERSHED BY THE END OF THE INSTALLATION PERIOD. GRASSED WATERWAYS WOULD PROVIDE WILDLIFE HABITAT. APPROXIMATELY 200 ACRES OF HIGHLY ERODED OR ERODIBLE AREAS WOULD BE REVEGETATED AND MAINTAINED IN PERMANENT COVER. PHOSPHORUS AND NITROGEN LEVELS IN WATERSHED WATER WOULD BE REDUCED SIGNIFICANTLY. GRADE STABILIZATION STRUCTURES WOULD CREATE 388 ACRES OF POND HABITAT FOR MIGRATORY WATERFOWL AND FISH. SEDIMENT DEPOSITION TO VIKING LAKE WOULD DECLINE BY 3,100 TONS PER YEAR, IMPROVING FISH HABITAT. THE 272 FARMS PARTIALLY OR ENTIRELY LOCATED WITHIN THE WATERSHED WOULD BENEFIT FROM INCREASED PRODUCTIVITY. (NEG)IMPROVEMENTS CREATED BY GRADE STABILIZATION STRUCTURES WOULD INUNDATE 115 ACRES OF FARMLAND, AND OTHER LAND-TREATMENT MEASURES WOULD RESULT IN THE CONVERSION OF 338 ACRES OF FARMLAND TO GRASSLAND. APPROXIMATELY 35 MILES OF STREAM CHANNEL WOULD BE FLOODED BY POOLS ASSOCIATED. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS DROPPED FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 112 PAGES. (NAL Call No.: 83-0038D). (NAL Call No.: 83-00380). (NAL Call No.: 83-0378F).

1500

### LARKIN CREEK WATERSHED, LEE AND ST. FRANCIS COUNTIES, ARKANSAS.

LEE COUNTY CONSERVATION DISTRICT. LITTLE ROCK, ARKANSAS DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE NOVEMBER 1982 (EPA: NOVEMBER 23, 1982). (PUR)COMPLETION OF IMPLEMENTATION OF A LAND AND RESOURCES MANAGEMENT PLAN FOR THE 37,863-ACRE LARKIN CREEK WATERSHED OF LEE AND ST. FRANCIS COUNTIES, ARKANSAS IS PROPOSED. THE WATERSHED, WHICH ENCOMPASSES THE SMALL COMMUNITIES OF GILL, FOUR FDRKS, HOLUB, AND WESTOR, LIES IN THE LOWER MISSISSIPPI WATER RESOURCE REGION AND THE MISSISSIPPI/ST. FRANCIS WATER RESOURCE SUBREGION. THE RECOMMENDED SCHEME WOULD INCLUDE 50.1 MILES OF CHANNEL WORK ON A MAIN DITCH AND 16 LATERALS, LAND TREATMENT TO REDUCE EROSION AND IMPROVE ON-FARM DRAINAGE SYSTEMS, 54 WATER-CONTROL STRUCTURES, 185 GRADE STABILIZATION STRUCTURES, AND CONSERVATION EASEMENTS AND WILDLIFE MANAGEMENT PLANS ON 1,035 ACRES OF FOREST AND WETLAND. LAND TREATMENT MEASURES WOULD INCLUDE INSTALLATION OF CROP AND TILLAGE SYSTEMS ON 1,500 ACRES OF EXCESSIVELY ERODING CROPLAND, LAND GRADING ON 220 ACRES TO IMPROVE IRRIGATION AND DRAINAGE, LAND SMOOTHING ON 4,300 ACRES OF CROPLAND, CONSTRUCTION OF 183.5 MILES OF DRAINAGE FIELD DITCHES, AND IMPLEMENTATION OF CROP RESIDUE SYSTEMS, DELAYED SEEDBED PREPARATIONS, AND CROP ROTATION SYSTEMS ON 3,090 ACRES OF FUTURE CROPLAND. CHANNEL WORK WOULD INCLUDE REALIGNMENT, ENLARGEMENT, AND CLEARING AND SNAGGING. APPROXIMATELY 325 CORRUGATED METAL PIPES WOULD BE INSTALLED ALONG THE SIDES OF DITCHES TO PREVENT EROSION, AND ROCK RIPRAP WOULD BE PLACED ON STREAM BANKS AT 10 BRIDGES. SEVENTEEN WOODEN BRIDGES WOULD BE REPLACED. THE MITIGATION PLAN THAT WOULD ACCOMPANY THE PROJECT WOULD INVOLVE OBTAINING EASEMENTS ON 746 ACRES OF SEASONALLY FLOODED WOODLANDS, 91 ACRES OF WOODLAND WITH OR WITHOUT SEASONAL FLOODING, 163 ACRES OF PERMANENTLY FLOODED WETLANDS, AND 30 ACRES OF SEASONALLY FLOODED CROPLAND. ESTIMATED COST OF THE PROJECT IS \$6.8 MILLION. (POS)IMPROVEMENTS IN LAND RESOURCES RESULTING FROM FLOODWATER REDUCTION AND BETTER DRAINAGE CONDITIONS WOULD PRODUCE AVERAGE ANNUAL BENEFITS WORTH \$266,600 AND \$179,400, RESPECTIVELY. FARM INCOME AND INCOME OF RELATED SECTORS WOULD INCREASE, RESULTING IN. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 82 PAGES.

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### LARKIN CREEK WATERSHED, LEE AND ST. FRANCIS COUNTIES, ARKANSAS.

LEE COUNTY CONSERVATION DISTRICT. LITTLE ROCK, ARKANSAS DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE NOVEMBER 1982 (EPA: NOVEMBER 23, 1982). (PUR)COMPLETION OF IMPLEMENTATION OF A LAND AND RESOURCES MANAGEMENT PLAN FOR THE 37,863-ACRE LARKIN CREEK WATERSHED OF LEE AND ST. FRANCIS COUNTIES, ARKANSAS IS PROPOSED. THE WATERSHED, WHICH ENCOMPASSES THE SMALL COMMUNITIES OF

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GILL, FOUR FORKS, HOLUB, AND WESTOR, LIES IN THE LOWER MISSISSIPPI WATER RESOURCE REGION AND THE MISSISSIPPI/ST. FRANCIS WATER RESOURCE SUBREGION. THE RECOMMENDED SCHEME WOULD INCLUDE 50.1 MILES OF CHANNEL WORK ON A MAIN DITCH AND 16 LATERALS, LAND TREATMENT TO REDUCE EROSION AND IMPROVE ON-FARM DRAINAGE SYSTEMS, 54 WATER-CONTROL STRUCTURES, 185 GRADE STABILIZATION STRUCTURES, AND CONSERVATION EASEMENTS AND WILDLIFE MANAGEMENT PLANS ON 1,035 ACRES OF FOREST AND WETLAND. LAND TREATMENT MEASURES WOULD INCLUDE INSTALLATION OF CROP AND TILLAGE SYSTEMS ON 1,500 ACRES OF EXCESSIVELY ERODING CROPLAND, LAND GRADING ON 220 ACRES TO IMPROVE IRRIGATION AND DRAINAGE, LAND SMOOTHING ON 4,300 ACRES OF CROPLAND, CONSTRUCTION OF 183.5 MILES OF DRAINAGE FIELD DITCHES, AND IMPLEMENTATION OF CROP RESIDUE SYSTEMS, DELAYED SEEDBED PREPARATIONS, AND CROP ROTATION SYSTEMS ON 3,090 ACRES OF FUTURE CROPLAND. CHANNEL WORK WOULD INCLUDE REALIGNMENT, ENLARGEMENT, AND CLEARING AND SNAGGING. APPROXIMATELY 325 CORRUGATED METAL PIPES WOULD BE INSTALLED ALONG THE SIDES OF DITCHES TO PREVENT EROSION, AND ROCK RIPRAP WOULD BE PLACED ON STREAM BANKS AT 10 BRIDGES. SEVENTEEN WOODEN BRIDGES WOULD BE REPLACED. THE MITIGATION PLAN THAT WOULD ACCOMPANY THE PROJECT WOULD INVOLVE OBTAINING EASEMENTS ON 746 ACRES OF SEASONALLY FLOODED WOODLANDS, 91 ACRES OF WOODLAND WITH OR WITHOUT SEASONAL FLOODING, 163 ACRES OF PERMANENTLY FLOODED WETLANDS, AND 30 ACRES OF SEASONALLY FLOODED CROPLAND. ESTIMATED COST OF THE PROJECT IS \$6.8 MILLION. (POS)IMPROVEMENTS IN LAND RESOURCES RESULTING FROM FLOODWATER REDUCTION AND BETTER DRAINAGE CONDITIONS WOULD PRODUCE AVERAGE ANNUAL BENEFITS WORTH \$266,600 AND \$179,400, RESPECTIVELY. FARM INCOME AND INCOME OF RELATED SECTORS WOULD INCREASE, RESULTING IN. USAO EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 82 PAGES.

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LARKIN CREEK WATERSHED, LEE AND ST. FRANCIS COUNTIES, ARKANSAS.

LEE COUNTY CONSERVATION DISTRICT, LITTLE ROCK, ARKANSAS DEPARTMENT OF AGRICULTURE, FOREST SERVICE AND SOIL CONSERVATION SERVICE MAY 1983 (EPA: JUNE 2, 1983). (PUR)COMPLETION OF IMPLEMENTATION OF A LAND AND RESOURCES MANAGEMENT PLAN FOR THE 37,863-ACRE LARKIN CREEK WATERSHED OF LEE AND ST. FRANCIS COUNTIES, ARKANSAS IS PROPOSED. THE WATERSHED, WHICH ENCOMPASSES THE SMALL COMMUNITIES OF GILL, FOUR FORKS, HOLUB, AND WESTOR, LIES IN THE LOWER MISSISSIPPI WATER RESOURCE REGION AND THE MISSISSIPPI/ST. FRANCIS WATER RESOURCE SUBREGION. THE RECOMMENDED SCHEME WOULD INCLUDE 50.1 MILES OF CHANNEL WORK ON A MAIN DITCH AND 16 LATERALS, LAND TREATMENT TO REDUCE EROSION AND IMPROVE ON-FARM DRAINAGE SYSTEMS, 54 WATER-CONTROL STRUCTURES, 185 GRADE-STABILIZATION STRUCTURES, AND CONSERVATION EASEMENTS AND WILDLIFE MANAGEMENT PLANS ON 1,035 ACRES OF FOREST AND WETLAND. LAND TREATMENT MEASURES WOULD INCLUDE INSTALLATION OF CROP AND TILLAGE SYSTEMS ON

1,500 ACRES OF EXCESSIVELY ERODING CROPLAND, LAND GRADING ON 220 ACRES TO IMPROVE IRRIGATION AND DRAINAGE, LAND SMOOTHING ON 4,300 ACRES OF CROPLAND, CONSTRUCTION OF 183.5 MILES OF DRAINAGE FIELD DITCHES, AND IMPLEMENTATION OF CROP RESIDUE SYSTEMS, DELAYED SEEDBED PREPARATIONS, AND CROP ROTATION SYSTEMS ON 3,090 ACRES OF FUTURE CROPLAND. CHANNEL WORK WOULD INCLUDE REALIGNMENT, ENLARGEMENT, AND CLEARING AND SNAGGING. APPROXIMATELY 325 CORRUGATED METAL PIPES WOULD BE INSTALLED ALONG THE SIDES OF DITCHES TO PREVENT EROSION, AND ROCK RIPRAP WOULD BE PLACED ON STREAM BANKS AT 10 BRIDGES. SEVENTEEN WOODEN BRIDGES WOULD BE REPLACED. THE MITIGATION PLAN THAT WOULD ACCOMPANY THE PROJECT WOULD INVOLVE OBTAINING EASEMENTS ON 746 ACRES OF SEASONALLY FLOODED WOODLANDS, 91 ACRES OF WOODLAND WITH OR WITHOUT SEASONAL FLOODING, 163 ACRES OF PERMANENTLY FLOODED WETLANDS, AND 30 ACRES OF SEASONALLY FLOODED CROPLAND. ESTIMATED COST OF THE PROJECT IS \$6.8 MILLION. (POS)IMPROVEMENTS IN LAND RESOURCES RESULTING FROM FLOODWATER REDUCTION AND BETTER DRAINAGE CONDITIONS WOULD PRODUCE AVERAGE ANNUAL BENEFITS WORTH \$266,600 AND \$179,400, RESPECTIVELY. FARM INCOME AND INCOME OF RELATED SECTORS WOULD INCREASE, RESULTING IN. USAO EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 127 PAGES.(NAL Call No.: 81-0725F).(NAL Call No.: 81-03100).

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### MIDDLE FORK OF ANDERSON RIVER WATERSHED, INDIANA.

CRAWFORD COUNTY SOIL AND WATER CONSERVATION DISTRICT, INDIANAPOLIS, INDIANA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JULY 1981 (EPA: JULY 22, 1981). (PUR)IMPLEMENTATION OF LAND-TREATMENT MEASURES, CONSTRUCTION OF TWO FLOODWATER-RETARDING STRUCTURES, AND MODIFICATION OR IMPROVEMENT OF 15.5 MILES OF CHANNELS WITHIN THE 69,400-ACRE WATERSHED OF THE MIDDLE FORK OF THE ANDERSON RIVER IN PERRY AND CRAWFORD COUNTIES, INDIANA ARE PROPOSED. LAND-TREATMENT MEASURES WOULD BE IMPLEMENTED ON 4,258 ACRES OF CROPLAND, 2,499 ACRES OF PASTURELAND, 9,063 ACRES OF FOREST, AND 728 ACRES OF OTHER LAND. TREATMENT MEASURES WOULD INCLUDE CONSERVATION CROPPING SYSTEMS, CROP RESIDUE MANAGEMENT, CRITICAL AREA PLANTING PROGRAMS, CONSTRUCTION OF DRAINFIELD DITCHES AND DRAINAGE MAINS AND LATERALS, PROVISION OF GRASSED WATERWAYS, CONSTRUCTION OF GRADE STABILIZATION STRUCTURES, LIVESTOCK EXCLUSION, CONSERVATION TILLAGE SYSTEMS, PASTURE AND HAYLAND MANAGEMENT AND PLANTING PROGRAMS, CONSTRUCTION OF PONDS AND TERRACES, CONSTRUCTION OF SUBSURFACE DRAINS, TREE PLANTING PROGRAMS, UPLAND HABITAT MANAGEMENT, AND WOODLAND IMPROVEMENT. CHANNEL WORK WOULD CONSIST OF 10.3 MILES OF ONE-SIDED EXCAVATION, 2.3 MILES OF CLEARING AND SHOAL REMOVAL, AND 2.9 MILES OF DEBRIS AND SHOAL REMOVAL. THE FLOODWATER-RETARDING STRUCTURES WOULD BE EARTHFILL EMBANKMENTS WITH REINFORCED CONCRETE SPILLWAYS. THE STRUCTURES WOULD CONTROL RUNOFF FROM 1.29 SQUARE MILES OF DRAINAGE AREA. ASSOCIATED SEDIMENT POOLS WOULD CREATE A TOTAL

## (WATER RESOURCES AND MANAGEMENT)

OF 6.3 ACRES OF WATER, AND THE FLOODWATER POOLS WOULD COVER 29.3 ACRES. ESTIMATED COST OF THE PROJECT IS \$5.99 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.3. (POS) THE PROJECT WOULD PROVIDE FLOOD PROTECTION FOR AGRICULTURAL LANDS, WHILE ELIMINATING SWAMPING PROBLEMS ASSOCIATED WITH LONG-DURATION HIGH FLOWS ALONG SEVERAL CHANNEL REACHES. LAND-TREATMENT MEASURES WOULD INCREASE PRODUCTION ON INDIVIDUAL FARMS AND ALLOW FOR MORE INTENSIVE PRACTICES IN OTHER LAND USE CATEGORIES. EROSION CONTROL MEASURES WOULD DECREASE THE AMOUNT OF SEDIMENT CARRIED OUT OF THE WATERSHED EACH YEAR BY 2,500 TONS. MONETARILY, ANNUAL BENEFITS WOULD AMOUNT TO \$219,720 FOR. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 89 PAGES.

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### MIDDLE FORK OF ANDERSON RIVER WATERSHED, INDIANA.

CRAWFORD COUNTY SOIL AND WATER CONSERVATION DISTRICT. INDIANAPOLIS, INDIANA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JANUARY 1981 (EPA: FEBRUARY 10, 1981). (PUR) IMPLEMENTATION OF LAND-TREATMENT MEASURES, CONSTRUCTION OF TWO FLOODWATER-RETARDING STRUCTURES, AND MODIFICATION OR IMPROVEMENT OF 15.5 MILES OF CHANNELS WITHIN THE 69,400-ACRE WATERSHED OF THE MIDDLE FORK OF THE ANDERSON RIVER IN PERRY AND CRAWFORD COUNTIES, INDIANA ARE PROPOSED. LAND-TREATMENT MEASURES WOULD BE IMPLEMENTED ON 4,258 ACRES OF CROPLAND, 2,499 ACRES OF PASTURELAND, 9,063 ACRES OF FOREST, AND 728 ACRES OF OTHER LAND. TREATMENT MEASURES WOULD INCLUDE CONSERVATION CROPPING SYSTEMS, CROP RESIDUE MANAGEMENT, CRITICAL AREA PLANTING PROGRAMS, CONSTRUCTION OF DRAINFIELD DITCHES AND DRAINAGE MAINS AND LATERALS, PROVISION OF GRASSED WATERWAYS, CONSTRUCTION OF GRADE STABILIZATION STRUCTURES, LIVESTOCK EXCLUSION, CONSERVATION TILLAGE SYSTEMS, PASTURE AND HAYLAND MANAGEMENT AND PLANTING PROGRAMS, CONSTRUCTION OF PONOS AND TERRACES, CONSTRUCTION OF SUBSURFACE DRAINS, TREE PLANTING PROGRAMS, UPLAND HABITAT MANAGEMENT, AND WOODLAND IMPROVEMENT. CHANNEL WORK WOULD CONSIST OF 10.3 MILES OF ONE-SIDED EXCAVATION, 2.3 MILES OF CLEARING AND SHOAL REMOVAL, AND 2.9 MILES OF DEBRIS AND SHOAL REMOVAL. THE FLOODWATER-RETARDING STRUCTURES WOULD BE EARTHFILL EMBANKMENTS WITH REINFORCED CONCRETE SPILLWAYS. THE STRUCTURES WOULD CONTROL RUNOFF FROM 1.29 SQUARE MILES OF DRAINAGE AREA. ASSOCIATED SEDIMENT POOLS WOULD CREATE A TOTAL OF 6.3 ACRES OF WATER AND THE FLOODWATER POOLS WOULD COVER 29.3 ACRES. ESTIMATED COST OF THE PROJECT IS \$5.99 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.3. (POS) THE PROJECT WOULD PROVIDE FLOOD PROTECTION FOR AGRICULTURAL LANDS, WHILE ELIMINATING SWAMPING PROBLEMS ASSOCIATED WITH LONG-DURATION HIGH FLOWS ALONG SEVERAL CHANNEL REACHES. LAND-TREATMENT MEASURES WOULD INCREASE PRODUCTION ON INDIVIDUAL FARMS AND ALLOW FOR MORE INTENSIVE PRACTICES IN OTHER LAND USE CATEGORIES. EROSION CONTROL MEASURES WOULD DECREASE THE AMOUNT OF SEDIMENT CARRIED OUT OF THE WATERSHED EACH YEAR BY 2,500 TONS. MONETARILY, ANNUAL BENEFITS

WOULD AMOUNT TO \$219,720 FOR. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 46 PAGES. (POS: 80-08700).

1505

### RATTLESNAKE CREEK WATERSHED, OHIO.

DEPARTMENT OF AGRICULTURE- SOIL CONSERVATION SERVICE. LONON, OHIO DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE APRIL 1981 (EPA: APRIL 6, 1981). (PUR) IMPLEMENTATION OF LAND-TREATMENT MEASURES AND MODIFICATION OF STREAM CHANNELS WITHIN THE 126-SQUARE-MILE RATTLESNAKE CREEK WATERSHED IN NORTHWESTERN CLINTON COUNTY, WESTERN FAYETTE COUNTY, EASTERN GREENE COUNTY, AND SOUTHERN MADISON COUNTY, OHIO ARE PROPOSED. LAND-TREATMENT MEASURES TO BE APPLIED TO 19,000 ACRES OF CROPLAND WOULD INCLUDE CONSERVATION TILLAGE, GRASSING OF WATERWAYS, INSTALLATION OF SUBSURFACE DRAINAGE PROVISIONS, AND INSTALLATION OF WATER-CONTROL STRUCTURES. OTHER LAND-TREATMENT MEASURES INCLUDE IMPLEMENTATION OF PASTURE-MANAGEMENT PRACTICES ON 900 ACRES, TIMBER-MANAGEMENT PRACTICES ON 400 ACRES, AND MISCELLANEOUS MANAGEMENT PRACTICES ON AN ADDITIONAL 850 ACRES. STRUCTURAL MEASURES WOULD INCLUDE CHANNEL MODIFICATION ALONG 57 MILES OF STREAM, INCLUDING 8.8 MILES OF OBSTRUCTION REMOVAL, 1.6 MILES OF FLUSH-CUT CLEARING, AND 46.6 MILES OF CHANNEL DEEPENING OR WIDENING. ALL CHANNEL MODIFICATION, WHICH WOULD TAKE PLACE EXCLUSIVELY IN AGRICULTURAL AREAS, WOULD BE DONE FROM ONE SIDE OF THE CHANNEL, EXCEPT ALONG CHANNELS IN WHICH REALIGNMENT WAS NECESSARY. TO MITIGATE DISTURBANCES OF WOODY VEGETATION DUE TO CHANNEL WORK, SHRUBS WOULD BE PLANTED AT A RATE OF ABOUT 1,200 PLANTS PER ACRE AND TREES WOULD BE PLANTED AT A RATE OF 436 SEEDLINGS PER ACRE. ESTIMATED COST OF THE PROJECT IS \$6.2 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.1. (POS) CHANNEL MODIFICATIONS WOULD REDUCE FLOODING FROM 100-YEAR STORMS ON 4,604 ACRES OF FARMLAND AND PROTECT 72 RESIDENTIAL AND COMMERCIAL STRUCTURES FROM THE 100-YEAR EVENT. ONCE THE PROJECT WAS COMPLETED, EROSION AND SEDIMENTATION PROBLEMS ON 82 PERCENT OF THE WATERSHED CROPLAND AND OVER 90 PERCENT OF THE OTHER LAND IN THE WATERSHED WOULD BE ALLEVIATED. (NEG) CHANNEL MODIFICATION AND LAND TREATMENT WOULD ALTER 109 ACRES OF CROPLAND AND PASTURE AND NINE ACRES OF FOREST AND BRUSHLAND. (LEG) WATERSHED PROTECTION AND FLOOD PREVENTION ACT OF 1954 (16 U.S.C. 1001 ET SEQ.). USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 127 PAGES. (NAL Call No.: 81-0470F).

1506

### RATTLESNAKE CREEK WATERSHED, OHIO.

DEPARTMENT OF AGRICULTURE- SOIL CONSERVATION SERVICE. LONON, OHIO DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JULY 1980 (EPA: JULY 25, 1980). (PUR) IMPLEMENTATION OF LAND-TREATMENT MEASURES AND MODIFICATION OF

(WATER RESOURCES AND MANAGEMENT)

STREAM CHANNELS WITHIN THE 126-SQUARE-MILE RATTLESNAKE CREEK WATERSHED IN NORTHWESTERN CLINTON COUNTY, WESTERN FAYETTE COUNTY, EASTERN GREENE COUNTY, AND SOUTHERN MADISON COUNTY, OHIO ARE PROPOSED. LAND-TREATMENT MEASURES TO BE APPLIED TO 19,000 ACRES OF CROPLAND WOULD INCLUDE CONSERVATION TILLAGE, GRASSING OF WATERWAYS, INSTALLATION OF SUBSURFACE DRAINAGE PROVISIONS, AND INSTALLATION OF WATER-CONTROL STRUCTURES. OTHER LAND-TREATMENT MEASURES INCLUDE IMPLEMENTATION OF PASTURE-MANAGEMENT PRACTICES ON 900 ACRES, TIMBER MANAGEMENT PRACTICES ON 400 ACRES, AND MISCELLANEOUS MANAGEMENT PRACTICES ON AN ADDITIONAL 850 ACRES. STRUCTURAL MEASURES WOULD INCLUDE CHANNEL MODIFICATION ALONG 57 MILES OF STREAM, INCLUDING 8.8 MILES OF OBSTRUCTION REMOVAL, 1.6 MILES OF FLUSH-CUT CLEARING, AND 46.6 MILES OF CHANNEL DEEPENING OR WIDENING. ALL CHANNEL MODIFICATION, WHICH WOULD TAKE PLACE EXCLUSIVELY IN AGRICULTURAL AREAS, WOULD BE DONE FROM ONE SIDE OF THE CHANNEL, EXCEPT ALONG CHANNELS IN WHICH REALIGNMENT WAS NECESSARY. TO MITIGATE DISTURBANCES OF WOODY VEGETATION DUE TO CHANNEL WORK, SHRUBS WOULD BE PLANTED AT A RATE OF ABOUT 1,200 PLANTS PER ACRE AND TREES WOULD BE PLANTED AT A RATE OF 436 SEEDLINGS PER ACRE. ESTIMATED COSTS OF THE PROJECT ARE \$6.2 MILLION. POSITIVE IMPACTS: CHANNEL MODIFICATIONS WOULD REDUCE FLOODING FROM 100-YEAR STORMS BY 4,604 ACRES, PROTECTING 72 RESIDENTIAL AND COMMERCIAL STRUCTURES FROM THE 100-YEAR EVENT. IN ADDITION, THE PROJECT WOULD CREATE 70 ACRES OF WATER SURFACE; PROVIDE 178 ACRES OF WATERFOWL AND AQUATIC HABITAT; ESTABLISH 371 ACRES OF GRASSES AND LEGUMES; REDUCE SOIL LOSSES ON 19,200 ACRES OF CROPLAND, 900 ACRES OF PASTURE, 225 ACRES OF WILDLIFE HABITAT, AND 631 ACRES OF OTHER LAND; REDUCE STREAMBANK EROSION BY 10 PERCENT; AND CREATE 114 JOBS. NEGATIVE IMPACTS: CHANNEL MODIFICATION AND LAND TREATMENT WOULD ALTER 178 ACRES OF CROPLAND AND PASTURE AND 47 ACRES OF FOREST AND BRUSHLAND. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 112 PAGES. (NAL Call No

Kommedahl. p. 70-72. Includes 5 ref. (NAL Call No.: SB951.I5 1979).

1509

**Soil and water management in soybean production systems (Conservation tillage, erosion control, double-cropping, no-till, strip-cropping).**  
Buntley, G.J. Atlanta, Potash & Phosphate Institute. Better crops with plant food. Summer 1982. v. 66. p. 3-5. (NAL Call No.: 6 B46). (NAL Call No.: 81-0311D). (NAL Call No.: 82-0271F).

1510

**UPPER BIG BLUE RIVER WATERSHED, HENRY AND RUSH COUNTIES, INDIANA.**

BIG BLUE RIVER CONSERVANCY DISTRICT. INDIANAPOLIS, INDIANA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JANUARY 1981 (EPA: FEBRUARY 19, 1981). (PUR) CONSTRUCTION OF TWO FLOODWATER-RETARDOING STRUCTURES, IMPLEMENTATION OF 24.5 MILES OF CHANNEL WORK, AND INSTALLATION OF CONSERVATION LAND-TREATMENT MEASURES ON 25,000 ACRES OF LAND WITHIN THE 124,000-ACRE UPPER BIG BLUE RIVER WATERSHED IN HENRY AND RUSH COUNTIES, INDIANA ARE PROPOSED TO PROVIDE FLOOD CONTROL AND WATERSHED PROTECTION. LAND-TREATMENT MEASURES WOULD BE APPLIED TO 9,100 ACRES OF CROPLAND, 7,630 ACRES OF PASTURELAND, 5,275 ACRES OF FOREST, AND 3,000 ACRES OF OTHER LAND. CONSERVATION PRACTICES TO BE APPLIED WOULD INCLUDE CONSERVATION CROPPING SYSTEMS, CONTOUR FARMING, TERRACES, DIVERSIONS, GRASSED WATERWAYS, MINIMUM TILLAGE, CROP RESIDUE USE, CRITICAL AREA PLANTING, GRADE STABILIZATION STRUCTURES, SUBSURFACE DRAINS, DRAINAGE FIELD DITCHES, OPEN CHANNELS, DRAINAGE MAINS OR LATERALS, WILDLIFE HABITAT MANAGEMENT, PASTURE AND HAYLAND MANAGEMENT, LIVESTOCK EXCLUSION PRACTICES, EROSION CONTROL PRACTICES, TIMBER AND RECREATIONAL FOREST MANAGEMENT, AND STREAMBANK IMPROVEMENT. CHANNEL WORK WOULD INCLUDE DEEPENING AND WIDENING CHANNELS AS WELL AS CLEARANCE AND DEBRIS REMOVAL FOR DRAINAGE AND FLOOD CONTROL PURPOSES. CONSTRUCTION OF THE EARTHFILL FLOODWATER-RETARDOING STRUCTURES WOULD REQUIRE ACQUISITION OF EASEMENTS ON A TOTAL OF 763 ACRES OF LAND. ONE STRUCTURE WOULD IMPOUND A PERMANENT POOL OF WATER COVERING 53 ACRES, WHILE THE OTHER WOULD HAVE NO PERMANENT POOL. BOTH STRUCTURES WOULD FEATURE PROVISIONS FOR SEDIMENT STORAGE AS WELL AS FLOOD CONTROL. THE TOTAL INSTALLATION COST OF THE PROJECT MEASURES IS ESTIMATED AT \$21.9 MILLION. (POS) STRUCTURAL MEASURES WOULD PROTECT 530 ACRES FROM A 2-YEAR FREQUENCY FLOOD, DECREASE AGRICULTURAL LOSSES DUE TO FLOODING BY 62 PERCENT, CREATE 53 ACRES OF PONDEO WATERS INCLUDING 8 ACRES OF HIGH-QUALITY WETLAND, DECREASE THE AMOUNT OF SEDIMENT LEAVING THE WATERSHED BY 30,400 TONS PER YEAR, AND ELIMINATE HAZARDS TO LIFE CAUSED BY FLOODING. LAND-TREATMENT MEASURES WOULD PROVIDE ADEQUATE DRAINAGE OUTLETS FOR 735 ACRES OF CROPLAND WIT. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 68 PAGES.

1507

**Shallow groundwater quality beneath an intensive multiple-cropping system using center pivot irrigation.**

Hubbard, R.K. JEVQAA. Asmussen, L.E.; Allison, H.D. Madison : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1984. v. 13 (1). p. 156-161. Includes references. (NAL Call No.: QH540.J6).

1508

**Soil and water conservation with minimum tillage in the semiarid Central Great Plains (USA).**

Smika, D.E. Minneapolis, Minn. : Published for the Congress by Burgess Pub., c1981. Proceedings of symposia : IX International Congress of Plant Protection, Washington, D.C., U.S.A., August 5-11, 1979 / editor, Thor

## (WATER RESOURCES AND MANAGEMENT)

1511

### UPPER BIG BLUE RIVER WATERSHED, HENRY AND RUSH COUNTIES, INDIANA.

BIG BLUE RIVER CONSERVANCY DISTRICT. INDIANAPOLIS, INDIANA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE NOVEMBER 1981 (EPA: FEBRUARY 24, 1982). (PUR) CONSTRUCTION OF TWO FLOODWATER-RETARDOING STRUCTURES, IMPLEMENTATION OF 24.5 MILES OF CHANNEL WORK, AND INSTALLATION OF CONSERVATION LAND-TREATMENT MEASURES ON 22,380 ACRES OF LAND WITHIN THE 124,000-ACRE UPPER BIG BLUE RIVER WATERSHED IN HENRY AND RUSH COUNTIES, INDIANA ARE PROPOSED TO PROVIDE FLOOD CONTROL AND WATERSHED PROTECTION. LAND-TREATMENT MEASURES WOULD BE APPLIED TO 9,100 ACRES OF CROPLAND, 7,630 ACRES OF PASTURELAND, 2,650 ACRES OF FOREST, AND 3,000 ACRES OF OTHER LAND. CONSERVATION PRACTICES TO BE APPLIED WOULD INCLUDE CONSERVATION CROPPING SYSTEMS, CONTOUR FARMING, TERRACES, DIVERSIONS, GRASSED WATERWAYS, MINIMUM TILLAGE, CROP RESIDUE USE, CRITICAL AREA PLANTING, GRADE STABILIZATION STRUCTURES, SUBSURFACE DRAINS, DRAINAGE FIELD DITCHES, OPEN CHANNELS, DRAINAGE MAINS OR LATERALS, WILDLIFE HABITAT MANAGEMENT, PASTURE AND HAYLAND MANAGEMENT, LIVESTOCK EXCLUSION PRACTICES, EROSION CONTROL PRACTICES, TIMBER AND RECREATIONAL FOREST MANAGEMENT, AND STREAMBANK IMPROVEMENT. CHANNEL WORK WOULD INCLUDE DEEPENING AND WIDENING CHANNELS AS WELL AS CLEARANCE AND DEBRIS REMOVAL FOR DRAINAGE AND FLOOD CONTROL PURPOSES. CONSTRUCTION OF THE EARTHFILL FLOODWATER-RETARDOING STRUCTURES WOULD REQUIRE ACQUISITION OF EASEMENTS ON A TOTAL OF 763 ACRES OF LAND. ONE STRUCTURE WOULD IMPOUND A PERMANENT POOL OF WATER COVERING 53 ACRES, WHILE THE OTHER WOULD HAVE NO PERMANENT POOL. BOTH STRUCTURES WOULD FEATURE PROVISIONS FOR SEDIMENT STORAGE AS WELL AS FLOOD CONTROL. THE TOTAL INSTALLATION COST OF THE PROJECT MEASURES IS ESTIMATED AT \$21.9 MILLION. (POS) STRUCTURAL MEASURES WOULD PROTECT 530 ACRES FROM A 2-YEAR FREQUENCY FLOOD, DECREASE AGRICULTURAL LOSSES DUE TO FLOODING BY 62 PERCENT, CREATE 53 ACRES OF PONDED WATERS INCLUDING 8 ACRES OF HIGH-QUALITY WETLAND, DECREASE THE AMOUNT OF SEDIMENT LEAVING THE WATERSHED BY 30,400 TONS PER YEAR, AND ELIMINATE HAZARDS TO LIFE CAUSED BY FLOODING. LAND-TREATMENT MEASURES WOULD PROVIDE EQUIVALENT DRAINAGE OUTLETS FOR 735 ACRES OF CROPLAND. USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 163 PAGES. L CALL NO.: 81-08380. (NAL CALL NO.: 82-0612F).

1513

### UPPER CHESTER RIVER WATERSHED PLAN, MARYLAND AND DELAWARE.

KENT COUNTY COMMISSIONERS. AND DOVER, DELAWARE DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, COLLEGE PARK, MARYLAND JULY 1982 (EPA: JULY 16, 1982). (PUR) CHANNEL EXCAVATION AND LAND TREATMENT WITHIN THE 90,500-ACRE UPPER CHESTER RIVER WATERSHED IN KENT AND QUEEN ANNE'S COUNTIES, MARYLAND, AND IN KENT AND NEW CASTLE COUNTIES, DELAWARE ARE PROPOSED TO SOLVE AGRICULTURAL FLOODING AND DRAINAGE PROBLEMS.

THE PROJECT WOULD INVOLVE PROVISION OF 18.5 PERSON-YEARS OF TECHNICAL ASSISTANCE TO ACCELERATE THE PLANNING AND APPLICATION OF LAND-TREATMENT MEASURES AND INSTALLATION OF 97 MILES OF CHANNEL WORK OVER A SEVEN-YEAR PERIOD. CHANNEL WORK WOULD INVOLVE CLEARING AND SHAPING OR ENLARGING 17.5 MILES OF PERENNIAL STREAMS, 67.5 MILES OF EPHEMERAL STREAMS, AND 12 MILES OF INTERMITTENT STREAMS. THE LAND-TREATMENT COMPONENT OF THE PROJECT WOULD INCLUDE 302,000 FEET OF HEDGEROW PLANTING, 2.0 MILLION FEET OF FIELD DITCH EXCAVATION, AND MANAGEMENT OF 1,860 ACRES OF WETLAND HABITAT AND 5,500 ACRES OF FOREST. THE PROGRAM WOULD TREAT 14,600 ACRES OF CROPLAND USING REDUCED TILLAGE SYSTEMS AND COVER CROPS. ESTIMATED COST OF THE PROJECT IS \$5.1 MILLION, AND THE ESTIMATED BENEFIT-COST RATIO IS 1.9. (POS) CHANNEL WORK AND LAND-TREATMENT MEASURES WOULD REDUCE FLOOD DAMAGES AND IMPROVE DRAINAGE ON 9,400 ACRES OF WET CROPLAND AND 5,200 ACRES OF INTERDEPENDENT NONWET CROPLAND, REDUCE EROSION ON AND SEDIMENT PRODUCED BY 14,600 ACRES OF CROPLAND, IMPROVE MANAGEMENT ON 3,700 ACRES OF FOREST LAND, AND IMPROVE WILDLIFE HABITAT WITHIN THE WATERSHED. THE AMOUNT OF PRIME FARMLAND WOULD INCREASE BY 9,400 ACRES. OF THE 250 FARM UNITS WITHIN THE WATERSHED, 120 WOULD BENEFIT FROM LAND-TREATMENT MEASURES AND 100 WOULD BENEFIT FROM STRUCTURAL MEASURES. (NEG) APPROXIMATELY 525 ACRES OF WOODED FLOODPLAIN AND ASSOCIATED WILDLIFE HABITAT WOULD BE CHANGED TO OPEN CHANNEL AND HERBACEOUS GROWTH AND BRUSH. PROJECT ACTIVITIES WOULD RESULT IN A NET LOSS OF 118 ACRES OF WETLAND. APPROXIMATELY 9.8 MILES OF EXISTING HEDGEROW WOULD BE REPLACED BY HERBACEOUS STRIPS, AND 75 ACRES OF CROPLAND WOULD BE CHANGED TO HERBACEOUS GROWTH AND BRUSH. EXCAVATION OF STREAMS WOULD DISRUPT. USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 221 PAGES.

1512

### UPPER CHESTER RIVER WATERSHED PLAN, MARYLAND AND DELAWARE.

KENT COUNTY COMMISSIONERS. COLLEGE PARK, MARYLAND DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JULY 1981 (EPA: AUGUST 3, 1981). (PUR) CHANNEL EXCAVATION AND LAND TREATMENT WITHIN THE 90,500-ACRE UPPER CHESTER RIVER WATERSHED IN KENT AND QUEEN ANNE'S COUNTIES, MARYLAND AND IN KENT AND NEW CASTLE COUNTIES, DELAWARE ARE PROPOSED TO SOLVE AGRICULTURAL FLOODING AND DRAINAGE PROBLEMS. THE PROJECT WOULD INVOLVE PROVISION OF 18.5 PERSON-YEARS OF TECHNICAL ASSISTANCE TO ACCELERATE THE PLANNING AND APPLICATION OF LAND-TREATMENT MEASURES AND INSTALLATION OF 97 MILES OF CHANNEL WORK OVER A SEVEN-YEAR PERIOD. CHANNEL WORK WOULD INVOLVE CLEARING AND SNAGGING AND ENLARGING 17.5 MILES OF PERENNIAL STREAMS, 67.5 MILES OF EPHEMERAL STREAMS, AND 12 MILES OF INTERMITTENT STREAMS. THE LAND-TREATMENT COMPONENT OF THE PROJECT WOULD INCLUDE 102,000 FEET OF HEDGEROW PLANTING, 2.0 MILLION FEET OF FIELD DITCH EXCAVATION, AND MANAGEMENT OF 1,860 ACRES OF WETLAND HABITAT AND 55,000 ACRES OF FOREST. THE ONGOING PROGRAM

(WATER RESOURCES AND MANAGEMENT)

WOULD TREAT 14,600 ACRES OF CROPLAND USING REDUCED TILLAGE SYSTEMS AND COVER CROPS. ESTIMATED COSTS OF CHANNEL WORK AND LAND-TREATMENT MEASURES ARE \$2.9 MILLION AND \$2.3 MILLION RESPECTIVELY, AND THE ESTIMATED BENEFIT-COST RATIO IS 1.8. (POS) CHANNEL WORK AND LAND-TREATMENT MEASURES WOULD REDUCE FLOOD DAMAGES AND IMPROVE DRAINAGE ON 9,400 ACRES OF WET CROPLAND AND 5,200 ACRES OF INTERDEPENDENT NONWET CROPLAND, REDUCE EROSION ON AND SEDIMENT PRODUCED BY 14,600 ACRES OF CROPLAND, IMPROVE MANAGEMENT ON 3,700 ACRES OF FOREST LAND, AND IMPROVE WILDLIFE HABITAT WITHIN THE WATERSHED. AN ESTIMATED 16,518 ACRES OF CROPLANDS WOULD BENEFIT FROM IMPROVED MANAGEMENT. THE AMOUNT OF FORESTED LAND WITHIN THE WATERSHED WOULD INCREASE FROM 26,115 ACRES TO 16,640 ACRES, AND THE AMOUNT OF PRIME FARMLAND WOULD INCREASE FROM 32,050 ACRES TO 41,450 ACRES. OF THE 250 FARM UNITS WITHIN THE WATERSHED, 120 WOULD BENEFIT FROM LAND-TREATMENT MEASURES AND 100 WOULD BENEFIT FROM STRUCTURAL MEASURES. (NEG) APPROXIMATELY 525 ACRES OF WOODLAND FLOODPLAIN AND ASSOCIATED WILDLIFE HABITAT WOULD BE CHANGED TO HERBACEOUS GROWTH AND BRUSH. PROJECT AC. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 241 PAGES. (NA)

1514

**Use and cost of soil conservation and water quality practices in the Southeast.**  
Russell, J.R. Christensen, L.A. Washington, D.C. : The Service. Extract: The most frequently used conservation practices in the Southeast are terracing, sod waterways, permanent vegetative cover crops, and conservation tillage. Costs of terracing per acre ranged from \$125 in Kentucky to \$17 in South Carolina. Sod waterway costs ranged from \$1,854 in Kentucky to \$858 in Tennessee. Permanent vegetative cover costs ranged from a high of \$121 in South Carolina to a low of \$73 in North Carolina. Conservation tillage costs ranged from a high of \$48 per acre in Florida to a low of \$9 in Tennessee. ERS staff report United States Dept. of Agriculture, Economic Research Service. Feb 1984. Available from NTIS, order no. PB84-161173. Feb 1984. (AGES831928). 19 p. Includes 16 references. (NAL Call No.: 916762(AGE)).

1515

**Water-saving technique finally accepted.**  
CRSOA. Madison, Wis. : American Society of Agronomy. Crops and soils magazine. Nov 1984. v. 37 (2). p. 27. ill. (NAL Call No.: DNAL 6 W55). GES. (NAL Call No.: 83-04370).

1516

**WATERSHED PLAN FOR ENGLISH COULEE WATERSHED, GRAND FORKS COUNTY, NORTH DAKOTA.**  
CITY OF GRAND FORKS, NORTH DAKOTA. BISMARCK, NORTH DAKOTA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JANUARY 1983 (EPA: JUNE 23, 1983). (PUR) IMPLEMENTATION OF A FLOOD CONTROL AND LAND TREATMENT PLAN FOR THE 73,664-ACRE ENGLISH COULEE WATERSHED IN GRAND FORKS COUNTY OF EASTERN NORTH DAKOTA IS PROPOSED. THE PREFERRED PLAN WOULD INVOLVE PROVISION OF ACCELERATED TECHNICAL ASSISTANCE IN INSTALLATION OF RESOURCE MANAGEMENT SYSTEMS ON 14,260 ACRES OF CROPLAND AND 1,760 ACRES OF RANGE, PASTURE, AND HAYLAND; CONSTRUCTION OF A ROLLED EARTHFILL DAM WITH RESERVOIR STORAGE RESERVED FOR SEDIMENT AND FLOODWATER; CONSTRUCTION OF A DIVERSION STRUCTURE TO CONVEY OUTFLOWS FROM THE FLOODWATER-RETARDING DAM AND THE RUNOFF FROM 8.7 MILES OF UNCONTROLLED DRAINAGE AREA; AND DEVELOPMENT OF THREE MILES OF FLOODWAY TO JOIN TWO EXISTING FLOODWAYS THAT HAVE A COMBINED LENGTH OF 10.5 MILES. LAND TREATMENT ACTIONS WOULD INCLUDE CONSERVATION CROPPING SYSTEMS ON 14,260 ACRES, 139,500 LINEAR FEET OF FIELD WINDBREAKS, CONSERVATION TILLAGE SYSTEMS ON 8,130 ACRES, PERMANENT HAYLAND PLANTING ON 440 ACRES, PLANTING OF GRASSES AND LEGUMES IN ROTATION ON 560 ACRES, CROP RESIDUE USE ON 14,260 ACRES, 900 LINEAR FEET OF DIVERSIONS, PLANTING OF GRASSES ON 9 ACRES WITHIN WATERWAYS, ENFORCEMENT OF PROPER GRAZING USE ON 1,430 ACRES OF GRASSLAND, PASTURE AND HAYLAND MANAGEMENT PRACTICES ON 160 ACRES, RANGE RESEEDING ON 80 ACRES, 9 LIVESTOCK WATERING PONOS, 22,500 LINEAR FEET OF CROSS FENCING, WILDLIFE MANAGEMENT ON 190 ACRES OF WETLAND, AND WILDLIFE MANAGEMENT PRACTICES ON 360 ACRES OF UPLAND. THE FLOODWATER-RETARDING STRUCTURE, WHICH WOULD CONTROL DRAINAGE ON 57.1 SQUARE MILES (OR NEARLY 50 PERCENT) OF THE WATERSHED, WOULD EXTEND 6.5 MILES AND HAVE AN AVERAGE HEIGHT OF 8 FEET; THE STRUCTURE WOULD REQUIRE 500,000 CUBIC YARDS OF FILL. THE FLOODWAY WOULD COMPLETE A 13.5-MILE SYSTEM THAT WOULD CONVEY DIVERTED WATER TO THE RED RIVER OF THE NORTH. COST OF STRUCTURAL MEASURES IS ESTIMATED AT \$3.5 MILLION, AND TECHNICAL ASSISTANCE COSTS ARE ESTIMATED AT \$34,000. ESTIMATED BENEFIT-COST RATIO FOR THE PROJECT IS 1.13. (POS) BOTH URBAN AND RURAL PROPERTIES WI. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 113 PA

1517

**WHEELING CREEK WATERSHED, GREENE AND WASHINGTON COUNTIES, PENNSYLVANIA AND OHIO AND MARSHALL COUNTIES, WEST VIRGINIA.**  
DEPARTMENT OF AGRICULTURE- SOIL CONSERVATION SERVICE. HARRISBURG, PENNSYLVANIA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JULY 1979 (EPA: AUGUST 6, 1979). (PUR) IMPLEMENTATION OF LAND-TREATMENT AND STRUCTURAL MEASURES FOR WATERSHED PROTECTION AND FLOOD PREVENTION IN THE WHEELING CREEK WATERSHED OF THE OHIO RIVER BASIN, GREENE AND WASHINGTON COUNTIES, PENNSYLVANIA, AND OHIO AND MARSHALL COUNTIES, WEST VIRGINIA IS PROPOSED. LAND-TREATMENT

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MEASURES WOULD INVOLVE 38,390 ACRES AND INCLUDE  
CONSERVATION CROPPING SYSTEMS, CONTOUR  
STRIP-CROPPING, DIVERSIONS, SUBSURFACE DRAINS,  
GRASSLAND PLANTINGS, GRASSED WATERWAYS, MINIMUM  
TILLAGE CULTIVATION, AND WILDLIFE. USDA  
EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL  
AGRICULTURAL LIBRARY OTHERS ORDER FROM  
INFORMATION RESOURCES PRESS, 1700 NORTH MOORE  
STREET, SUITE 70 ARLINGTON, VA 22209. 74 PAGES.  
(NAL Call No.: 79-12470).

# DRAINAGE AND IRRIGATION

1518

## Conservation tillage and irrigation for (the Southeastern) Coastal Plain soils: a progress report.

Camp, C.R. Christenbury, G.D.; Doty, C.W. St. Joseph, Mich. (P.O. Box 410), American Society of Agricultural Engineers, 1980. Crop production with conservation in the 80's : proceedings of the American Society of Agricultural Engineers Conference on Crop Production with Conservation in the 80's, December 1-2, 1980, Palmer House, Chicago, Illinois. p. 111-120. ill. 11 ref. (NAL Call No.: S494.5.P75C7).

1519

## Conservation tillage under reduced pressure sprinkler irrigation.

DeBoer, D.W. Beck, D.L. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1983. Paper presented at the 1983 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1983. (fiche no. 83-1526). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1520

## Efficient water use: conservation of soil moisture with no-tillage.

Morse, R.D. Virginia Beach, Va. : Virginia Polytechnic Inst. and State University Cooperative Ext. Service. The Vegetable growers news. July/Aug 1984. v. 39 (1). p. 2, 4. (NAL Call No.: DNAL 275.28 V52).

1521

## Grain sorghum response to tillage method used during fallow and to limited irrigation.

AGJODAT. Baumhardt, R.L. Zartman, R.E.; Unger, P.W. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1985. v. 77 (4). p. 643-646. Includes references. (NAL Call No.: DNAL 4 AM34P).

1522

## Influence of reduced tillage on furrow irrigation infiltration.

Eisenhauer, D.E. Dickey, E.C.; Fischbach, P.E.; Frank, K.D. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept.,

2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-2587). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1523

## Nutrient, sediment, and herbicide losses in tile drainage under conservation and conventional tillage.

Gold, A.J. Loudon, T.L. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-2549). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1524

## Reduced tillage and water use in irrigated cotton production.

Larson, D.L. Hinz, W.W.; Armstrong, J.F.; Fangmeier, D.D. St. Joseph, Mich., The Society. Transactions of the ASAE - American Society of Agricultural Engineers. Dec 1979. Dec 1979. (79-1521). 10 p. ill. 7 ref. (NAL Call No.: 290.9 AM32T).

1525

## Shallow groundwater quality beneath an intensive multiple-cropping system using center pivot irrigation.

Hubbard, R.K. JEVQAA. Asmussen, L.E.; Allison, H.D. Madison : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1984. v. 13 (1). p. 156-161. Includes references. (NAL Call No.: QH540.J6).

1526

## Subsurface trickle irrigation management with multiple cropping (Cantaloupe, onions, carrots).

Bucks, D.A. Erie, L.J.; French, O.F.; Nakayama, F.S.; Pew, W.D. St. Joseph, Mich., The Society. Transactions of the ASAE - American Society of Agricultural Engineers. Nov/Dec 1981. v. 24 (6). p. 1482-1489. ill. 17 ref. (NAL Call No.: 290.9 AM32T).

(DRAINAGE AND IRRIGATION)

1527

Views of rootstocks, varieties, irrigation and  
inter-cropping.

Thome, H. East Lansing, Mich., International  
Dwarf Fruit Tree Association. Compact fruit  
tree. June 1980. v. 13. p. 28-30. (NAL Call  
No.: 93.5 D96).

# LAND RESOURCES

1528

**Approaches for resolving mid-America's farmland problems (Conservation, land resources, no-till, soil erosion control, USA).**

McLaughlin, C.T. NAWTA. Washington : Wildlife Management Institute. Transactions of the ... North American Wildlife and Natural Resources Conference. 1983. 1983. (48th). p. 28-31. (NAL Call No.: 412.9 N814).

1529

**Cropland rental and soil conservation in the United States.**

Bills, N.L. Washington, O.C. : The Department. Extract: Data from USDA's Resource Economics Survey challenge the common, but not well-substantiated, view that farmers are less concerned with erosion on land they rent than on land they own. At the national level, farmers' conservation efforts--as reflected in crop rotation, tillage practices, and use of conservation practices--on rented cropland compare favorably with those on owner-operated cropland. Nevertheless, rented land is subject to more erosion because a greater proportion of it is used to produce erosive row crops. Agricultural economic report - United States Dept. of Agriculture. Available from NTIS, order no. PB85-190973/AS. Mar 1983. (529). 13 p. Includes 26 references. (NAL Call No.: ONAL AGE A281.9 AG8A).

1530

**Profit now with conservation.**

Kessler, K. Moline, Ill., John Deers Plow Co. The Furrow. Apr 1980. v. 85 (4). p. 2-4. ill. (NAL Call No.: 6 F98).

1531

**SOIL AND WATER RESOURCES CONSERVATION ACT.**  
DEPARTMENT OF AGRICULTURE~ SOIL CONSERVATION SERVICE. WASHINGTON, O.C DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE OCTOBER 1981 (EPA: OCTOBER 29, 1981).  
(PUR)IMPLEMENTATION OF A NATIONAL SOIL AND WATER CONSERVATION PROGRAM IS PROPOSED TO GUIDE FUTURE CONSERVATION ACTIVITIES ON THE NATION'S PRIVATE AND NONFEDERAL LANDS. THE PLAN WAS DEVELOPED AS A RESULT OF AN ASSESSMENT OF THE 1.5 BILLION ACRES OF NONFEDERAL LAND IN THE UNITED STATES. THE PREFERRED PLAN WOULD INVOLVE ESTABLISHMENT OF CLEAR NATIONAL PRIORITIES FOR ADDRESSING PROBLEMS ASSOCIATED WITH SOIL, WATER, AND RELATED RESOURCES OVER THE NEXT FIVE YEARS; PROVISION OF FEDERAL MATCHING BLOCK GRANTS TO STATES FOR AN EXPANDED ROLE IN DEVELOPING AND IMPLEMENTING CONSERVATION PROGRAMS; PROVISION FOR LOCAL CONSERVATION COORDINATING BOARDS TO APPRAISE LOCAL CONDITIONS AND DEVELOP PROGRAMS; PROVISION FOR STATE CONSERVATION COORDINATING BOARDS TO APPRAISE OVERALL STATE RESOURCES AND BUILD ON LOCAL PROGRAMS; ESTABLISHMENT OF A NATIONAL CONSERVATION BOARD TO ADVISE THE SECRETARY OF

AGRICULTURE ON CONSERVATION MATTERS; EXPANSION OF CONSERVATION FUNDING FOR CRITICAL AREAS WHERE SOIL EROSION OR OTHER RESOURCE PROBLEMS THREATEN THE PRODUCTIVE CAPACITY OF THE SOIL; EMPHASIS ON CONSERVATION TILLAGE AND OTHER COST-EFFICIENT MEASURES FOR REDUCING SOIL EROSION AND SOLVING RELATED PROBLEMS; EVALUATION OF TAX INCENTIVES AS INCENTIVE TO INCREASED USE OF CONSERVATION SYSTEMS; TECHNICAL AND FINANCIAL ASSISTANCE TO FARMERS AND RANCHERS FOR INSTALLATION OF CONSERVATION SYSTEMS; DEVELOPMENT OF RESEARCH, EDUCATION, AND INFORMATION SERVICES AROUND PROBLEMS THAT IMPAIR AGRICULTURAL PRODUCTIVITY; ESTABLISHMENT OF PILOT PROJECTS TO TEST NEW SOLUTIONS TO CONSERVATION PROBLEMS; REQUIREMENT THAT LAND OWNERS HAVE A CONSERVATION PLAN IN ORDER TO BE ELIGIBLE FOR FARMERS HOME ADMINISTRATION LOANS; MINIMIZATION OF CONFLICTS AMONG FEATURES OF FARM PROGRAMS THAT LIMIT ACHIEVEMENT OF CONSERVATION OBJECTIVES, FORTIFICATION OF COLLECTION AND ANALYSIS OF RESOURCE DATA, EVALUATION AND ANALYSIS OF CONSERVATION PROGRESS, AND EXPANSION OF THE USE OF LONG-TERM AGREEMENTS FOR THE PROVISION OF CONSERVATION ASSISTANCE. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 3 VOLUMES. (NAL Call No.: 81-09810). 82-03520. Call No.: 82-0708F).

1532

**WEST SOCORRO RANGELAND MANAGEMENT PROGRAM, NEW MEXICO.**

DEPARTMENT OF THE INTERIOR~ BUREAU OF LAND MANAGEMENT. SOCORRO, NEW MEXICO DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT SEPTEMBER 1982 (EPA: SEPTEMBER 3, 1982). (PUR)IMPLEMENTATION OF A RANGELAND MANAGEMENT PROGRAM FOR 986,092 ACRES OF PUBLIC LAND WITHIN THE 6.0-MILLION-ACRE DIVISION PLANNING AREA OF THE SAN AUGUSTINE RESOURCE AREA OF WEST-CENTRAL NEW MEXICO IS PROPOSED. THE AREA CONTAINS 187 GRAZING ALLOTMENTS. ALL ALLOTMENTS WERE EVALUATED AND ASSIGNED AN AVERAGE ALLOTMENT RANGE CONDITION. EACH ALLOTMENT WAS THEN PLACED WITHIN ONE OF SIX MANAGEMENT CATEGORIES, DEPENDING ON RANGE CONDITION AND ACREAGE OF PUBLIC LAND WITHIN THE ALLOTMENT. EACH OF THE CATEGORIES POSSESSES INHERENT MANAGEMENT ACTIONS BASED ON LIVESTOCK GRAZING AND MANAGEMENT PRINCIPLES; THESE INCLUDE SEASON-OF-USE, DISTRIBUTION OF DOMESTIC LIVESTOCK, KIND AND CLASS OF LIVESTOCK, AND NUMBERS OF LIVESTOCK. BASED ON THE MANAGEMENT CATEGORY IN WHICH AN ALLOTMENT HAS BEEN PLACED, THE PREFERRED PLAN WOULD IMPLEMENT, AT A MINIMUM, THOSE REQUIRED MANAGEMENT ACTIONS AND, POSSIBLY, OPTIONAL MANAGEMENT ACTIONS ON ALL 187 GRAZING ALLOTMENTS. IMPLEMENTATION OF MANAGEMENT ACTIONS BY ALLOTMENT MANAGEMENT CATEGORY WOULD BE CONDUCTED IN CONJUNCTION WITH CAREFUL AND CONSIDERED CONSULTATION, COOPERATION, AND COORDINATION WITH LESSEES, PERMITTEES, AND LANDOWNERS. MINIMUM RANGELAND IMPROVEMENTS TO BE CONSTRUCTED OR INSTALLED IN CONJUNCTION WITH THE PLAN WOULD INCLUDE 47 MILES OF FENCE, 65 MILES OF PIPELINE, 10 WELLS, AND 27 PIT TANKS. VEGETATIVE LAND TREATMENTS WOULD BE CONDUCTED ON A MAXIMUM OF 353,320

## (LAND RESOURCES)

ACRES OF PUBLIC LAND; THESE TREATMENTS WOULD INCLUDE MECHANICAL MANIPULATION, HERBICIDE APPLICATION, AND PRESCRIBED USE OF FIRE TO CONTROL PINYON-JUNIPER AND RABBITBRUSH ENCROACHMENT ON A MAXIMUM OF 299,560 ACRES; USE OF PITTING, CONTOUR RIPPING, AND CONTOUR FURROWING ON A MAXIMUM OF 17,280 ACRES; AND USE OF SEEDING OR INTERSEEDING ON 36,480 ACRES. MONITORING PROGRAMS WOULD BE INSTITUTED TO DETERMINE THE EFFECTIVENESS OF MANAGEMENT ACTIONS IN IMPROVING THE STATUS OF THE AREA FOR LIVESTOCK AND WILDLIFE. (POS)SEDIMENT YIELDS WOULD BE REDUCED BY APPROXIMATELY EIGHT PERCENT OVER THE LONG. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 2 VOLUMES. (NAL

OVER THE LONG. USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 364 PAGES. (NAL Call No.:

1532

### WEST SOCORRO RANGELAND MANAGEMENT PROGRAM, NEW MEXICO.

DEPARTMENT OF THE INTERIOR- BUREAU OF LAND MANAGEMENT. SOCORRO, NEW MEXICO DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT MAY 1982 (EPA: APRIL 26, 1982). (PUR)IMPLEMENTATION OF A RANGELAND MANAGEMENT PROGRAM FOR 986,092 ACRES OF PUBLIC LAND WITHIN THE 6.0-MILLION-ACRE DIVIDE PLANNING AREA OF THE SAN AUGUSTINE RESOURCE AREA OF WEST-CENTRAL NEW MEXICO IS PROPOSED. THE AREA CONTAINS 187 GRAZING ALLOTMENTS. ALL ALLOTMENTS WERE EVALUATED AND ASSIGNED AN AVERAGE ALLOTMENT RANGE CONDITION. EACH ALLOTMENT WAS THEN PLACED WITHIN ONE OF SIX MANAGEMENT CATEGORIES, DEPENDING ON RANGE CONDITION AND ACREAGE OF PUBLIC LAND WITHIN THE ALLOTMENT. EACH OF THE CATEGORIES POSSESSES INHERENT MANAGEMENT ACTIONS BASED ON LIVESTOCK GRAZING AND MANAGEMENT PRINCIPLES; THESE INCLUDE SEASON-OF-USE, DISTRIBUTION OF DOMESTIC LIVESTOCK, KIND AND CLASS OF LIVESTOCK, AND NUMBERS OF LIVESTOCK. BASED ON THE MANAGEMENT CATEGORY IN WHICH AN ALLOTMENT HAS BEEN PLACED, THE PREFERRED PLAN WOULD IMPLEMENT, AT A MINIMUM, THOSE REQUIRED MANAGEMENT ACTIONS AND, POSSIBLY, OPTIONAL MANAGEMENT ACTIONS ON ALL 187 GRAZING ALLOTMENTS. IMPLEMENTATION OF MANAGEMENT ACTIONS BY ALLOTMENT MANAGEMENT CATEGORY WOULD BE CONDUCTED IN CONJUNCTION WITH CAREFUL AND CONSIDERED CONSULTATION, COOPERATION, AND COORDINATION WITH LESSEES, PERMITTEES, AND LANDOWNERS. MINIMUM RANGELAND IMPROVEMENTS TO BE CONSTRUCTED OR INSTALLED IN CONJUNCTION WITH THE PLAN WOULD INCLUDE 47 MILES OF FENCE, 65 MILES OF PIPELINE, 10 WELLS, AND 27 PIT TANKS. VEGETATIVE LAND TREATMENTS WOULD BE CONDUCTED ON A MAXIMUM OF 353,320 ACRES OF PUBLIC LAND; THESE TREATMENTS WOULD INCLUDE MECHANICAL MANIPULATION, HERBICIDE APPLICATION, AND PRESCRIBED USE OF FIRE TO CONTROL PINYON-JUNIPER AND RABBITBRUSH ENCROACHMENT ON A MAXIMUM OF 299,560 ACRES; USE OF PITTING, CONTOUR RIPPING, AND CONTOUR FURROWING ON A MAXIMUM OF 17,280 ACRES; AND USE OF SEEDING OR INTERSEEDING ON 36,480 ACRES. MONITORING PROGRAMS WOULD BE INSTITUTED TO DETERMINE THE EFFECTIVENESS OF MANAGEMENT ACTIONS IN IMPROVING THE STATUS OF THE AREA FOR LIVESTOCK AND WILDLIFE. (POS)SEDIMENT YIELDS WOULD BE REDUCED BY APPROXIMATELY EIGHT PERCENT

# FEED COMPOSITION

1534

**Digestibilities of silages made from corn interplanted with soybean or fababean.**  
Murphy, W.M. Welch, J.G.; Palmer, R.H.; Gilman, B.E.; Albers, C.W.; Dugdale, D.T. Champaign, Ill. : American Dairy Science Association. Journal of dairy science. July 1984. v. 67 (7). p. 1532-1534. Includes 9 references. (NAL Call No.: 44.8 J822).

1535

**Evaluation of Pensacola bahiagrass and Alicia bermudagrass with and without interplanted ryegrass and red clover (Perennial pasture grasses, forage yields, nutrient quality, Louisiana).**

Montgomery, C.P. LAXBA. Nelson, B.D.; Allen, M.; Mason, L.; Mowers, R.P. Baton Rouge : The Station. Bulletin - Louisiana Agricultural Experiment Station. May 1983. May 1983. (748). 23 p. ill. Includes references. (NAL Call No.: 100 L93 (1)).

1536

**Forage potentials of legume-interseeded pastures.**  
Bokhari, U.G. Stillwater, Okla., The Station. Research report P - Oklahoma, Agricultural Experiment Station. May 1982. May 1982. (824). p. 88-91. (NAL Call No.: 100 OK4M).

1537

**Forage yield of intercropped corn and soybean in various planting patterns (Includes protein content, Massachusetts).**  
Herbert, S.J. Putnam, D.H.; Poos-Floyd, M.I.; Vargas, A.; Creighton, J.F. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1984. v. 76 (4). p. 507-510. ill. Includes references. (NAL Call No.: 4 AM34P).

# POLLUTION

1538

**An accelerated implementation program for reducing the diffuse-source phosphorus load to Lake Erie.**

JSWCA3. Forster, D.L. Logan, T.J.; Yaksich, S.M.; Adams, J.R. Ankeny, Iowa : Soil Conservation Society of America. *Journal of soil and water conservation*. Jan/Feb 1985. v. 40 (1). p. 136-141. Includes 9 references. (NAL Call No.: DNAL 56.8 J822).

1539

**Conservation practice effects on phosphorus losses from Southern Piedmont watersheds.**

JSWCA3. Langdale, G.W. Leonard, R.A.; Thomas, A.W. Ankeny, Iowa : Soil Conservation Society of America. *Journal of soil and water conservation*. Jan/Feb 1985. v. 40 (1). p. 157-161. Includes 30 references. (NAL Call No.: DNAL 56.8 J822).

1540

**Cyanazine losses in runoff from no-tillage corn in "living" and dead mulches vs. unmulched, conventional tillage (Herbicide, Zea mays).**

Hall, J.K. JEVQAA. Hartwig, N.L.; Hoffman, L.D. Madison : American Society of Agronomy. *Journal of environmental quality*. Jan/Mar 1984. v. 13 (1). p. 105-110. Includes references. (NAL Call No.: QH540.J6).

1541

**Dissolved nitrogen and phosphorus in runoff from watersheds in conservation and conventional tillage.**

JSWCA3. Alberts, E.E. Spomer, R.G. Ankeny, Iowa : Soil Conservation Society of America. *Journal of soil and water conservation*. Jan/Feb 1985. v. 40 (1). p. 153-157. Includes 12 references. (NAL Call No.: DNAL 56.8 J822).

1542

**Environmental significance of minimum-tillage.**

Thomas, G.W. Totowa, N.J. : Rowman & Allanheld, 1985. *Agricultural chemicals of the future : invited papers presented at a symposium held May 16-19, 1983, at the Beltsville Agricultural Research Center (BARC), Beltsville, Maryland / James L. Hilton, edit.* p. 411-423. Includes references. (NAL Call No.: DNAL S583.2.A374).

1543

**Evaluating dairy waste management systems' influence on fecal coliform concentration in runoff / James A. Moore ... (et al.).**

Moore, James A. Corvallis Oregon State University, Agricultural Experiment Station (1982). "A final report for a project funded

under Section 208 of the Federal Clean Water Act through ... Tillamook Soil and Water Conservation District, Soil and Water Conservation Commission, Oregon Department of Environmental Quality, (and) U.S. Environmental Protection Agency. ~"November 1982"--Cover ~OR HEO/Ag8/2.4B87:658. ii, 101 p. : ill. ; 28 cm. - Bibliography: p. 70-86. (NAL Call No.: 100 Or3 no.658).

1544

**Issue in pollution control: interplant cost differences and economies of scale (Pulp and paper industry).**

Pittman, R.W. Madison, University of Wisconsin Press. *Land economics*. Feb 1981. v. 57 (1). p. 1-17. Bibliography p. 13-15. (NAL Call No.: 282.8 J82).

1545

**Nutrient losses in runoff from conventional and no-till corn watersheds (Nonpoint-source pollution, Maryland).**

Angle, J.S. McClung, G.; McIntosh, M.S.; Thomas, P.M.; Wolf, D.C. Madison, Wis. : American Society of Agronomy. *Journal of environmental quality*. July/Sept 1984. v. 13 (3). p. 431-435. Includes references. (NAL Call No.: QH540.J6).

1546

**Phosphorus losses as affected by tillage and manure application (Conventional, chisel, and no-till systems, maize, pollution potential of surface runoff).**

Mueller, D.H. Wendt, R.C.; Daniel, T.C. Madison, Wis. : The Society. *Journal - Soil Science Society of America*. July/Aug 1984. v. 48 (4). p. 901-905. Includes 23 references. (NAL Call No.: 56.9 S03).

1547

**Soil erosion awareness and use of conservation tillage for water quality control.**

Korschning, P.F. WARBA. Nowak, P.J. Minneapolis : American Water Resources Association. *Water resources bulletin*. June 1983. v. 19 (3). p. 459-462. Includes references. (NAL Call No.: 292.9 AM34).

1548

**Using simulation to assess the impacts of conservation tillage on movement of sediment and phosphorus into Lake Erie.**

JSWCA3. Beasley, D.B. Monke, E.J.; Miller, E.R.; Huggins, L.F. Ankeny, Iowa : Soil Conservation Society of America. *Journal of soil and water conservation*. Mar/Apr 1985. v. 40 (2). p. 233-237. maps. Includes 11

( POLLUTION )

references. (NAL Call No.: DNAL 56.8 J822).

# MATHEMATICS AND STATISTICS

1549

**The adoption of reduced tillage: the role of human capital and other variables.**

Rahm, M.R. Huffman, W.E. Ames, Iowa : American Agricultural Economics Association. Extract: This paper presents a model of adoption behavior and explains differences econometrically in farmers' decisions to adopt reduced-tillage practices and in the efficiency of farmers' adoption decisions. The empirical results, obtained from microdata, show that the probability of adopting reduced tillage in corn enterprises differs widely across farms and depends on soil characteristics, cropping systems, and size of farming operation. The results also show that farmers' schooling enhances the efficiency of the adoption decision. American journal of agricultural economics. Includes statistical data. Nov 1984. v. 66 (4). p. 405-413. Includes 26 references. (NAL Call No.: DNAL 280.8 J822).

1550

**The economic and environmental impacts of an ethanol industry on Western New York.**

Gould, B.W. College Park, Md. : The Council. Extract: This paper examines the economic, environmental and energy use impacts of a corn based ethanol industry on Western New York State. A regional linear programming model is used. Five representative farm groups are used to describe the agricultural sector of the study region. Comparisons are made between a benchmark solution and model formulations that include conservation tillage practices, ethanol induced feed price changes, and the feeding of the feed by-product, DDG. Journal - Northeastern Agricultural Economics Council. Fall 1982. v. 11 (2). p. 133-138. Includes 17 references. (NAL Call No.: HD1773.A2N6).

1551

**Estimation of multicrop production functions.** Just, R.E. Zilberman, D.; Hochman, E. Ames, Iowa : American Agricultural Economics Association. Extract: This paper considers whether separability or nonjointness is the better approach for attaining tractability for multicrop production function estimation. Characteristics of agricultural production associated with allocated inputs, physical constraints, and output determination imply sufficient nonjointness for estimation, whereas separability is less plausible. The paper also addresses estimation of production functions with allocated inputs where allocations are not observed and demonstrates a proposed approach by way of example. American journal of agricultural economics. Nov 1983. v. 65 (4). p. 770-780. Includes 18 references. (NAL Call No.: 280.8 J822).

1552

**Field verification of runoff curve numbers for fallow rotations (Conservation tillage, erosion control, Kansas).**

Steichen, J. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-2096). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1553

**Impacts of productivity loss on crop production and management in a dynamic economic model.**

Miranowski, J.A. Ames, Iowa : American Agricultural Economics Association. Extract: This article finds the optimal choice of tillage method and crop rotation for farmers who correctly anticipate the yield-decreasing effects of soil erosion. Expected increases in crop prices lead to farming practices that are more conservation oriented. Higher relative prices for hay also lead to more soil conservation. A linear programming model of soil loss is presented for a watershed in Tama County, Iowa. American journal of agricultural economics. Feb 1984. v. 66 (1). p. 61-71. Includes 20 references. (NAL Call No.: 280.8 J822).

1554

**Impacts of reduced tillage on operating inputs and machinery requirements.**

Epplin, F.M. Tice, T.F.; Baquet, A.E.; Handke, S.J. Ames, Iowa, American Agricultural Economics Association. Extract: In this paper we present some work regarding alternative tillage systems for wheat production in Oklahoma. We include a section describing the physical and economic environment which has prompted our efforts in this area. Other sections describe our approach to estimating resource requirements of alternative systems. American journal of agricultural economics. Dec 1982. v. 64 (5). p. 1039-1046. Includes 13 references. (NAL Call No.: 280.8 J822).

1555

**Issue in pollution control: interplant cost differences and economies of scale (Pulp and paper industry).**

Pittman, R.W. Madison, University of Wisconsin Press. Land economics. Feb 1981. v. 57 (1). p. 1-17. Bibliography p. 13-15. (NAL Call No.: 282.8 J82).

(MATHEMATICS AND STATISTICS)

1556

**Managing corn residue to control soil and nutrient losses (Runoff, simulated rainfall plots, conservation tillage).**  
Mickelson, S.K. Baker, J.L.; Laflen, J.M. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1983. Paper presented at the 1983 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1983. (fiche no. 83-2161). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1557

**Multiple crop supply and factor demand component of the world Grains, Oilseeds, and Livestock model.**  
Liu, K. Washington, D.C., The Service. Extract: This paper reviews the crop supply component of the world Grains, Oilseeds, and Livestock (GOL) model and attempts to develop an improved conceptual framework for specifying the multiple crop supply and input demand relationships in the GOL model. As a basis for examining and revising the crop supply component, the theoretical foundations for a multiple product production system and empirical studies related to agricultural commodity supply response were reviewed. The revised specification of the crop supply equations consists of a nonlinear equation system of area, yield and production. The major emphasis on the revision of the crop supply component is to ensure consistent acreage allocation among crop alternatives, to more realistically capture cross-price effects or substitution possibilities between alternative crops and to include policy variables to reflect the effects of government farm policies on crop supply response. ERS staff report - U.S. Dept. of Agriculture, Economic Research Service. Aug 1981. Available from NTIS. Aug 1981. (AGESS810812). 49 p. 67 ref. (NAL Call No.: 916762(AGE)).

1558

**Pennsylvania farmland prices as a function of land quality and distance from metropolitan areas.**  
Downing, R.H. Gamble, H.B. College Park, Md. : The Council. Extract: Data on 268 farm sales in 10 counties throughout Pennsylvania in 1977 were analyzed using a hedonic price model. Problems associated with the influence of parcel size and buildings on per acre land values appear to have been overcome. Proximity of farms to metropolitan centers and the quantities of different types of land on a farm were important explanatory variables. Values per acre were computed showing the effects of those variables on price. Values for nontillable land, high productivity tillable

land, and land suitable for on-site sewage disposal tended to cluster within a \$650-\$700 price range per acre at 85 miles for the nearest SMSA. Journal - Northeastern Agricultural Economics Council. 1983. v. 12 (1). p. 67-74. Includes 10 references. (NAL Call No.: HD1773.A2N6).

1559

**Predicting corn planting dates for moldboard and no-till tillage systems in the corn belt.**  
AGUDAT. Gupta, S.C. Madison, Wis. : American Society of Agronomy. Agronomy journal. Includes planting date maps. May/June 1985. v. 77 (3). p. 446-455. maps. Includes 14 references. (NAL Call No.: DNAL 4 AM34P).

1560

**A stochastic dominance comparison of reduced tillage systems in corn and soybean production under risk.**

Klemme, R.M. Ames, Iowa : American Agricultural Economics Association. Extract: Returns per acre of reduced tillage systems including conventional, chisel, till-plant, and no-till are examined under general assumptions concerning risk. These returns are calculated using corn and soybean experimental plot yields. Stochastic dominance rankings indicate an advantage (second degree) of conventional and chisel over no-till when soil loss costs are not assigned. Annual per acre soil loss costs of \$5-15 shift rankings towards the reduced tillage systems. A \$10 per acre cost results from corn yield losses of 0.06% per year (170 bushel per acre yield base) over fifty years with a 5% real discount rate. American journal of agricultural economics. Aug 1985. v. 67 (3). p. 550-562. Includes 14 references. (NAL Call No.: DNAL 280.8 J822).

1561

**Trends in conservation tillage use.**  
JSWCA3. Magleby, R. Gadsby, D.; Colacicco, D.; Thigpen, J. Ankeny, Iowa : Soil Conservation Society of America. Extract: A recent U.S. Department of Agriculture (USDA) survey of more than 11,000 farmers nationwide--the 1983 Farm Production Expenditure Survey (FPES) conducted in the spring of 1984--provided some national and regional insights into the use of conservation tillage practices. Covered were such aspects as the extent and location of use, crops grown, size of farm, cropland slope, tenure, reasons given for use of conservation tillage, and government assistance received. Journal of soil and water conservation. Includes statistical data. May/June 1985. v. 40 (3). p. 274-276. Includes 1 references. (NAL Call No.: DNAL 56.8 J822).

# DOCUMENTATION

1562

**Annotated bibliography of selected extension publications, conservation tillage /by J.W. Bauder. -.**  
Bauder, J. W. Washington, D.C.? : Conservation Tillage Information Center ; Fort Wayne, Ind. (2010 Inwood Dr., Fort Wayne 46815) : Available from Conservation Tillage Information Center, 1984. Cover title: Cooperative extension publications on conservation tillage, an annotated bibliography.~ "A special project of the National Association of Conservation Districts."~ "This publication was produced as a cooperative effort of the Montana Cooperative Extension Service, the Minnesota Agricultural Extension Service, the Extension Service-USDA and the Conservation Tillage~ "July 1984.". 84 p. ; 28 cm. (NAL Call No.: DNAL Z5074.S65B37).

1563

**Conservation tillage (including minimum and no tillage), May 1982-April 1984.**  
MacLean, J.T. Beltsville, Md. : The Library. Quick bibliography series - National Agricultural Library. June 1984. Updates 82-19 ~Bibliography. June 1984. (84-41). 36 p. (NAL Call No.: aZ5071.N3).

1564

**Development of computerized databases for the Conservation Tillage Information Center.**  
Morrison, J.B. Madison : The Institute, (1983). NCCI Workshop, the Use of Computers in Agricultural Information : May 2-5, 1983, Palmer House, Chicago, Illinois / sponsored by North Central Computer Institute. 7 p. (NAL Call No.: S494.5.I47N38 1983).

1565

**Double-cropping and interplanting, June 1982-December 1983.**  
MacLean, J.T. Beltsville, Md. : The Library. Quick bibliography series - National Agricultural Library. Mar 1984. Updates 82-29 ~Bibliography. Mar 1984. (84-18). 19 p. (NAL Call No.: aZ5071.N3).

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